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Natural
Resources
Conservation
Service

United States
Department of
Agriculture

Washington

Water Supply Outlook Report

February 1, 2005



Water Supply Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington Water Supply Outlook

February 2005

General Outlook

January was a month of extremes for precipitation and temperature. Some areas in the state received one-half of their January precipitation in one day while others suffered with only 15% of average for the entire month. Temperature extremes were also off the charts last month with as much as a 56 degrees Fahrenheit change. Boundry Dam swung from minus 13 degrees on January 15 to plus 43 degrees on January 25. Boundry Dam also reported 2.14 inches of rain for the month, 77% of normal, and received .93 inches of that on January 18. Over all January was not a good month for normal weather conditions in Washington State. The above mentioned events also led to extreme snowpack meltout and some flooding. With over one-half of the normal snowpack collection period over, we would need to receive 2-3 times the normal snowfall over the next two months to catch up. Long-range weather forecasters are not very optimistic that we have a chance of catching up. The focus is now shifting to "how bad is it going to be?" Minimum snowpack, maximum temperature and minimum streamflow records are being set around the state.

Snowpack

The February 1 statewide SNOTEL readings were 26% of average. The Green River Basin snow surveys reported the lowest readings at 4% of average. Readings in the Kettle River Basin (including Canadian data) reported the highest at 94% of average. Westside averages from SNOTEL, and February 1 snow surveys, included the North Puget Sound river basins with 29% of average, the Central Puget river basins with 14%, and the Lewis-Cowlitz basins with 26% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 22% and the Wenatchee area with 43%. Snowpack in the Spokane River Basin was at 40% and the Walla Walla River Basin had 26% of average. Maximum snow cover in Washington was at Lyman Lake SNOTEL in the Chelan Lake Basin, with water content of 22 inches. This site would normally have 43.4 inches of water content on February 1. Last year at this time Lyman Lake had 25.6 inches of snow water.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	36	40
Pend Oreille	55	55
Okanogan	77	67
Methow	52	42
Conconully Lake	71	55
Wenatchee	37	31
Chelan	57	40
Upper Yakima	19	18
Lower Yakima	25	27
Ahtanum Creek	30	31
Walla Walla	22	26
Lower Snake	40	48
Cowlitz	23	25
Lewis	25	26
White	28	31
Green	4	4
Cedar	4	5
Snoqualmie	12	13
Skykomish	22	24
Skagit	33	30
Baker	30	37
Nooksack	14	21
Olympic Peninsula	15	23

Precipitation

During the month of January, the National Weather Service and Natural Resources Conservation Service climate stations reported varying precipitation totals throughout Washington river basins. The highest percent of average in the state was at Quillayute WSO Airport which reported 123% of average for a total of 16.84 inches. The average for this site is 13.65 inches for January. The lowest percent of average as at Walla Walla 13ESE with only 7% of average for .36 inches. The wettest spot in the state was reported at Skookum Creek SNOTEL in the Tolt River Basin with a January accumulation of 17.8 inches. Basin averages for the water year are all below average with the Olympic Peninsula reporting the highest at 84% and the Lower Yakima and Walla Walla river basins with the lowest at 59% of average.

RIVER BASIN	JANUARY PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	68	78
Colville-Pend Oreille	60	80
Okanogan-Methow	61	80
Wenatchee-Chelan	74	71
Upper Yakima	68	61
Lower Yakima	59	59
Walla Walla	40	59
Lower Snake	64	73
Cowlitz-Lewis	57	63
White-Green-Puyallup	60	66
Central Puget Sound	76	80
North Puget Sound	82	82
Olympic Peninsula	114	84

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation and flood control. Reservoir storage in the Yakima Basin was 475,000-acre feet, 107% of average for the Upper Reaches and 167,000-acre feet, 138% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 66% of average for February 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 154,000 acre feet, 133% of average and 65% of capacity; Chelan Lake, 462,000-acre feet, 146% of average and 68% of capacity; and the Skagit River reservoirs at 128% of average and 89% of capacity.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	65	133
Colville-Pend Oreille	N/A	N/A
Okanogan-Methow	47	66
Wenatchee-Chelan	68	146
Upper Yakima	57	107
Lower Yakima	72	138
North Puget Sound	89	128

Streamflow

February forecasts vary from 100% of average for the Kettle River near Laurier to 29% of average for Ahtanum Creek at Union Gap. April-September forecasts for some Western Washington streams include the Cedar River near Cedar Falls, 60%; Green River, 52%; and Skagit River, 61%. Some Eastern Washington streams include the Yakima River near Parker, 55%; Wenatchee River at Plain, 55%; and Spokane River near Post Falls, 58%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS.

Statewide January streamflows also varied but were mostly above average, being driven by heavy rain and rain on snow events January 16-20. The Similkameen River Near Nighthawk had the highest reported flows with 354% of average. The Grande Ronde River at Troy with 34% of average was the lowest in the state. Other streamflows were the following percentage of average: the Cowlitz at Castle Rock, 71%; the Spokane at Spokane, 127%; the Columbia below Rock Island Dam, 158%; and the Cle Elum near Roslyn, 220%.

BASIN	PERCENT OF AVERAGE (50 PERCENT CHANCE OF EXCEEDENCE)
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Spokane	58-62
Colville-Pend Oreille	35-100
Okanogan-Methow	31-70
Wenatchee-Chelan	45-61
Upper Yakima	51-59
Lower Yakima	29-59
Walla Walla	37-73
Lower Snake	59-67
Cowlitz-Lewis	49-64
White-Green-Puyallup	52-62
Central Puget Sound	55-71
North Puget Sound	61-81
Olympic Peninsula	65-68

STREAM	PERCENT OF AVERAGE JANUARY STREAMFLOWS
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Pend Oreille Below Box Canyon	136
Kettle at Laurier	295
Columbia at Birchbank	163
Spokane at Long Lake	104
Similkameen at Nighthawk	354
Okanogan at Tonasket	297
Methow at Pateros	177
Chelan at Chelan	302
Wenatchee at Pashastin	253
Yakima at Cle Elum	165
Yakima at Parker	131
Naches at Naches	134
Grande Ronde at Troy	34
Snake below Lower Granite Dam	71
SF Walla Walla near Milton Freewater	64
Columbia River at The Dalles	113
Lewis at Ariel	79
Cowlitz below Mayfield Dam	79
Skagit at Concrete	165

For more information contact your local Natural Resources Conservation Service office.

BASIN SUMMARY OF SNOW COURSE DATA

FEBRUARY 2005

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
ABTANUM R.S.	3100	1/28/05	9	3.0	6.6	7.1	MEADOWS PASS SNOTEL	3240	2/01/05	0	.0	21.8	19.1
ALPINE MEADOWS SNTL	3500	2/01/05	16	7.1	37.2	29.2	MERRITT	2140	1/28/05	13	3.9	9.6	11.1
ASHLEY DIVIDE	4820	2/01/05	3	.7	5.2	5.1	METEOR		1/31/05	14	3.9	4.7	-
BADGER PASS SNOTEL	6900	2/01/05	37	11.6	20.9	22.3	M F NOOKSACK SNOTEL	4980	2/01/05	19	7.7	45.2	-
BAIRD #2	3220	2/01/05	18	5.0	6.2	--	MICA CREEK SNOTEL	4750	2/01/05	20	6.8	22.8	18.1
BARKER LAKES SNOTEL	8250	2/01/05	24	5.9	7.8	9.2	MINERS RIDGE SNOTEL	6200	2/01/05	---	15.9	28.8	36.1
BASIN CREEK SNOTEL	7180	2/01/05	11	2.7	4.5	4.9	MORSE LAKE SNOTEL	5400	2/01/05	---	10.7	37.4	36.1
BEAVER CREEK TRAIL	2200	1/26/05	8	2.8	13.1	10.3	MOSES MOUNTAIN (2)	4800	1/27/05	13	4.4	6.2	12.1
BEAVER PASS	3680	1/26/05	13	5.2	20.4	19.3	MOSES MTN SNOTEL	4800	2/01/05	18	4.4	5.9	10.1
BEAVER PASS SNOTEL	3680	2/01/05	29	9.9	23.9	--	MOSES PEAK	6650	1/27/05	25	7.1	10.1	9.1
BERNE-MILL CREEK (d)	3170	1/28/05	24	7.5	18.6	20.2	MOSQUITO RDG SNOTEL	5200	2/01/05	---	15.7	30.4	24.1
BLACK PINE SNOTEL	7100	2/01/05	15	4.1	6.7	8.0	MOULTON RESERVOIR	6850	1/26/05	11	2.1	6.4	5.1
BLEWETT PASS#2SNOTEL	4270	2/01/05	0	.0	8.9	12.4	MOUNT CRAG SNOTEL	4050	2/01/05	24	10.3	17.5	19.1
BRIEF	1600	1/27/05	13	4.6	4.6	6.0	MOUNT TOLMAN	2000	1/26/05	9	3.1	2.6	3.1
BROWN TOP	AM 6000	1/26/05	29	10.2	37.0	42.5	MOWICH SNOTEL	3150	2/01/05	0	.0	.6	--
BROWNS PASS		1/25/05	6	1.5	3.7	--	MOUNT GARDNER SNOTEL	2860	2/01/05	---	.0	13.4	12.0
BUMPING LAKE (NEW)	3400	2/01/05	11	3.4	12.8	13.3	MUTTON CREEK #1	5700	2/01/05	14	4.0	7.0	9.4
BUMPING RIDGE SNOTEL	4600	2/01/05	4	2.2	22.0	19.4	N.F. ELK CR SNOTEL	6250	2/01/05	19	5.3	8.4	8.0
BUNCHGRASS MDWS SNOTEL	5000	2/01/05	41	13.6	20.1	18.6	NEVADA RIDGE SNOTEL	7020	2/01/05	20	6.0	10.0	10.1
BURNT MOUNTAIN PIL	4200	2/01/05	0	.0	10.1	--	NEW HOZOMEEN LAKE	2800	1/26/05	0	.0	6.0	7.0
BUTTERMILK BUTTE		1/26/05	20	6.3	8.1	--	NEZ PERCE CMP SNOTEL	5650	2/01/05	22	5.3	10.8	9.9
CHESSMAN RESERVOIR	6200	1/24/05	5	1.1	2.3	2.5	NOISY BASIN SNOTEL	6040	2/01/05	54	19.8	26.0	27.0
CHICKEN CREEK	4060	1/26/05	25	7.7	17.2	11.5	OLALLIE MDWS SNOTEL	3960	2/01/05	9	4.7	38.7	39.2
CHIAWAUKUM G.S.	2500	1/28/05	14	4.2	6.9	8.6	OPHIR PARK	7150	1/30/05	18	4.6	8.6	10.6
CLOUDY PASS	AM 6500	2/02/05	20	7.8	--	29.5	PARADISE PARK SNOTEL	5500	2/01/05	---	17.0	52.8	48.1
COLD CREEK STRIP	6020	1/31/05	15	3.6	4.9	--	PARK CK RIDGE SNOTEL	4600	2/01/05	31	12.6	28.2	35.0
COMBINATION SNOTEL	5600	2/01/05	5	1.3	3.8	3.4	PETERSON MDW SNOTEL	7200	2/01/05	14	3.5	5.8	6.1
COPPER BOTTOM SNOTEL	5200	2/01/05	0	.0	9.0	8.0	PIGTAIL PEAK SNOTEL	5900	2/01/05	29	10.6	42.3	34.3
COPPER MOUNTAIN	7700	1/29/05	21	4.6	5.5	7.0	PIKE CREEK SNOTEL	5930	2/01/05	25	8.1E	16.6	17.6
CORRAL PASS SNOTEL	6000	2/01/05	---	7.6	26.3	22.1	PIPESTONE PASS	7200	1/29/05	2	.5	2.1	3.2
COUGAR MTN. SNOTEL	3200	2/01/05	1	.0	10.3	13.7	POPE RIDGE SNOTEL	3540	2/01/05	23	7.3	11.1	14.5
COX VALLEY	4500	1/29/05	8	2.3	26.1	24.2	POTATO HILL SNOTEL	4500	2/01/05	---	4.1	22.0	18.5
COYOTE HILL	4200	1/25/05	14	3.5	7.8	7.3	QUARTZ PEAK SNOTEL	4700	2/01/05	13	5.1	17.4	15.4
DALY CREEK SNOTEL	5780	2/01/05	19	5.5	7.9	7.4	RAGGED RIDGE	3330	1/28/05	1	.8	7.6	--
DEER PARK	5200	1/29/05	0	.0	9.0	12.2	RAINY PASS SNOTEL	4780	2/01/05	34	10.6	23.7	30.2
DEVILS PARK	5900	1/25/05	38	14.2	29.4	30.7	REX RIVER SNOTEL	1900	2/01/05	1	.0	25.3	21.7
DISAUTEL PASS		1/25/05	14	3.4	3.7	--	ROCKER PEAK SNOTEL	8000	2/01/05	22	5.3	7.7	9.1
DISCOVERY BASIN	7050	1/28/05	14	3.5	6.7	6.6	ROUND TOP MTN	4020	1/28/05	0	.0	11.0	--
DIX HILL	6400	1/30/05	13	3.1	6.9	7.6	RUSTY CREEK	4000	2/01/05	11	3.2	3.4	4.5
DOMMERIE FLATS	2200	2/01/05	0	.0	7.1	6.4	SADDLE MTN SNOTEL	7900	2/01/05	37	10.2	16.7	17.3
DUNCAN RIDGE	5370	1/31/05	11	2.3	3.5	--	SALMON MDWS SNOTEL	4500	2/01/05	18	4.8	6.6	7.5
DUNGENESS SNOTEL	4100	2/01/05	0	.0	1.1	--	SASSE RIDGE SNOTEL	4200	2/01/05	7	6.3	23.2	23.8
ELBOW LAKE SNOTEL	3200	2/01/05	8	.8	32.9	20.4	SATUS PASS	4030	1/28/05	10	3.6	9.7	8.7
EMERY CREEK SNOTEL	4350	2/01/05	18	4.9	13.3	10.5	SAVAGE PASS SNOTEL	6170	2/01/05	35	10.0	18.1	17.4
FISH CREEK	8000	1/26/05	12	2.6	5.8	5.8	SAWMILL RIDGE	4700	1/28/05	2	1.2	24.5	22.5
FISH LAKE	3370	2/01/05	23	7.4	22.0	24.5	SCREIBERS MDW	AM 3400	1/24/05	29	12.0	40.6	32.4
FISH LAKE SNOTEL	3370	2/01/05	22	6.5	22.9	24.7	SENTINEL BT SNOTEL	4920	2/01/05	14	4.3	--	--
FLATTOP MTN SNOTEL	6300	2/01/05	60	21.4	29.2	31.8	SHEEP CANYON SNOTEL	4050	2/01/05	---	1.9	19.6	23.3
FOURTH OF JULY SUM	3200	1/31/05	0	.0	9.4	7.1	SHERWIN SNOTEL	3200	2/01/05	---	1.9	10.6	8.4
FREEZEOUT CK. TRAIL	3500	1/26/05	4	2.0	9.8	8.8	SKALKAHO SNOTEL	7260	2/01/05	33	8.4	14.0	16.0
FROENR MDWS SNOTEL	6480	2/01/05	13	4.4	5.4	5.0	SKOOKUM CREEK SNOTEL	3920	2/01/05	0	.0	21.3	20.2
GOAT CREEK	3600	1/31/05	15	4.8	5.9	5.1	SOURDOUGH GULCH SNTL	4000	2/01/05	0	.0	.9	--
GOLD MTN		1/31/05	17	4.2	8.0	--	SPENCER MDW SNOTEL	3400	2/01/05	---	3.2	24.2	21.3
GRASS MOUNTAIN #2	2900	1/28/05	0	.0	9.7	7.5	SPIRIT LAKE SNOTEL	3100	2/01/05	---	.0	1.5	--
GRAVE CRK SNOTEL	4300	2/01/05	17	6.3	14.3	11.7	SPOTTED BEAR MTN.	7000	1/25/05	12	3.4	9.8	10.1
GREEN LAKE SNOTEL	6000	2/01/05	15	5.5	16.7	15.4	SPRUCE SPRINGS SNTL	5700	2/01/05	8	3.0	11.4	--
GROUSE CAMP SNOTEL	5380	2/01/05	13	4.7	13.8	14.0	STARVATION CANYON	6750	1/24/05	20	5.2	10.3	13.0
HAND CREEK SNOTEL	5030	2/01/05	7	3.0	8.5	8.6	STAHL PEAK SNOTEL	6030	2/01/05	59	20.2	23.1	24.1
HARTS PASS SNOTEL	6500	2/01/05	40	12.0	26.0	31.3	STAMPEDE PASS SNOTEL	3860	2/01/05	5	3.7	30.7	31.4
HELL ROARING DIVIDE	5770	1/25/05	40	13.6	21.3	20.7	STEVENS PASS SNOTEL	4070	2/01/05	24	7.8	28.2	30.2
HERRIG JUNCTION	4850	1/26/05	38	12.7	18.2	18.1	STEVENS PASS SAND SD	3700	1/28/05	15	4.8	23.9	24.0
HIGH RIDGE SNOTEL	4980	2/01/05	16	5.3	23.5	16.9	STORM LAKE	7780	1/26/05	20	4.8	6.8	8.3
HOLBROOK	4530	1/25/05	6	1.3	7.0	7.2	STRYKER BASIN	6180	1/26/05	46	15.6	18.4	21.3
HOODOO BASIN SNOTEL	6050	2/01/05	53	17.0	26.9	30.1	SUNSET SNOTEL	5540	2/01/05	---	7.8	16.6	20.3
HUCKLEBERRY SNOTEL	2000	2/01/05	0	.0	1.9	--	SURPRISE LKS SNOTEL	4250	2/01/05	---	8.7	35.8	32.1
HUMBOLDT GLCH SNOTEL	4250	2/01/05	---	2.0	12.4	9.5	SWAMP CREEK SNOTEL	4000	2/01/05	6	2.6	15.8	--
INTERGAARD	6450	1/30/05	4	.9	4.5	4.8	TEN MILE LOWER	6600	1/24/05	9	1.9	4.7	4.7
IRENE'S CAMP	5530	1/31/05	16	3.1	5.7	--	TEN MILE MIDDLE	6800	1/24/05	15	3.6	5.7	7.1
ISINTOK LAKE	CAN. 5100	1/28/05	9	2.6	4.8	5.2	THUNDER BASIN SNOTEL	4200	2/01/05	---	9.2	21.1	24.1
JUNE LAKE SNOTEL	3200	2/01/05	17	7.7	20.6	28.4	THOMPSON CREEK	2500	1/28/05	1	.4	6.3	--
KELLER RIDGE	3700	1/26/05	11	3.2	3.5	--	THOMPSON RIDGE		1/26/05	16	4.9	7.4	--
KELLOGG PEAK	5560	1/30/05	16	5.8	22.0	20.7	TINKHAM CREEK SNOTEL	3000	2/01/05	---	3.4	20.0	22.7
KLESILKWA	CAN. 3450	1/28/05	0	.0	12.1	7.6	TOATS COULEE	2850	1/31/05	9	2.0	1.8	2.1
KRAFT CREEK SNOTEL	4750	2/01/05	12	3.7	11.0	10.9	TOUCRET SNOTEL	5530	2/01/05	18	5.3	24.2	23.8
LESTER CREEK	3100	1/28/05	0	.0	15.0	14.2	TRINKUS LAKE	6100	1/25/05	54	19.6	25.8	26.4
LOLO PASS SNOTEL	5240	2/01/05	33	9.5	21.8	20.9	TROUGH #2 SNOTEL	5310	2/01/05	0	.0	7.8	7.5
LONE PINE SNOTEL	3800	2/01/05	---	7.9	29.6	24.1	TRUMAN CREEK	4060	1/30/05	5	1.3	4.3	3.5
LOOKOUT SNOTEL	5140	2/01/05	26	8.1	23.1	21.5	TUNNEL AVENUE	2450	2/02/05	4	1.4	16.4	14.8
LOST HORSE MTN CAN.	6300	1/30/05	14	3.8	5.9	6.5	TV MOUNTAIN	6800	1/25/05	25	6.6	11.8	12.0
LOST HORSE SNOTEL	5000	2/01/05	8	2.7	13.9	13.1	TWELVE MILE SNOTEL	5600	2/01/05	18	5.6	14.7	12.8
LOST LAKE SNOTEL	6110	2/01/05	---	22.0	39.2	40.6	TWIN CAMP	4100	1/28/05	0	.0	16.2	17.4
LOUP LOUP CAMPGROUND		1/24/05	14	3.6	5.8	--	TWIN LAKES SNOTEL	6400	2/01/05	48	16.1	30.8	27.5
LUBRECHT FOREST NO 3	5450	1/28/05	2	.6	3.8	4.6	UPPER HOLLAND LAKE	6200	1/25/05	40	13.5	24.2	23.7
LUBRECHT SNOTEL	4680	2/01/05	5	1.5	5.0	4.2	UPPER WHEELER SNOTEL	4400	2/01/05	11	3.6	10.1	9.2
LYMAN LAKE SNOTEL	5900	2/01/05	---	22.0	25.6	43.4	WARM SPRINGS SNOTEL	7800	2/01/05	30	7.9	13.3	13.8
LYNN LAKE	4000	1/28/05	0	.0	15.7	14.5	WATERHOLE SNOTEL	5000	2/01/05	0	.0	29.0	--
MARIAS PASS	5250	1/28/05	8	3.2	13.0	11.7	WELLS CREEK SNOTEL	4200	2/01/05	20	7.3	25.7	17.4
MEADOWS CABIN	1900	1/26/05	0	.0	3.1	5.0	WHITE PASS ES SNOTEL	4500	2/01/05	6	2.4	16.9	17.1



Natural Resources Conservation Service

Washington State
Snow, Water and Climate Services

Program Contacts

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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:

<http://www.wa.nrcs.usda.gov/snow>

Oregon:

<http://www.or.nrcs.usda.gov/snow>

Idaho:

<http://www.id.nrcs.usda.gov/snow>

National Water and Climate Center (NWCC):

<http://www.wcc.nrcs.usda.gov>

NWCC Anonymous FTP Server:

<ftp.wcc.nrcs.usda.gov>

USDA-NRCS Agency Homepages

Washington:

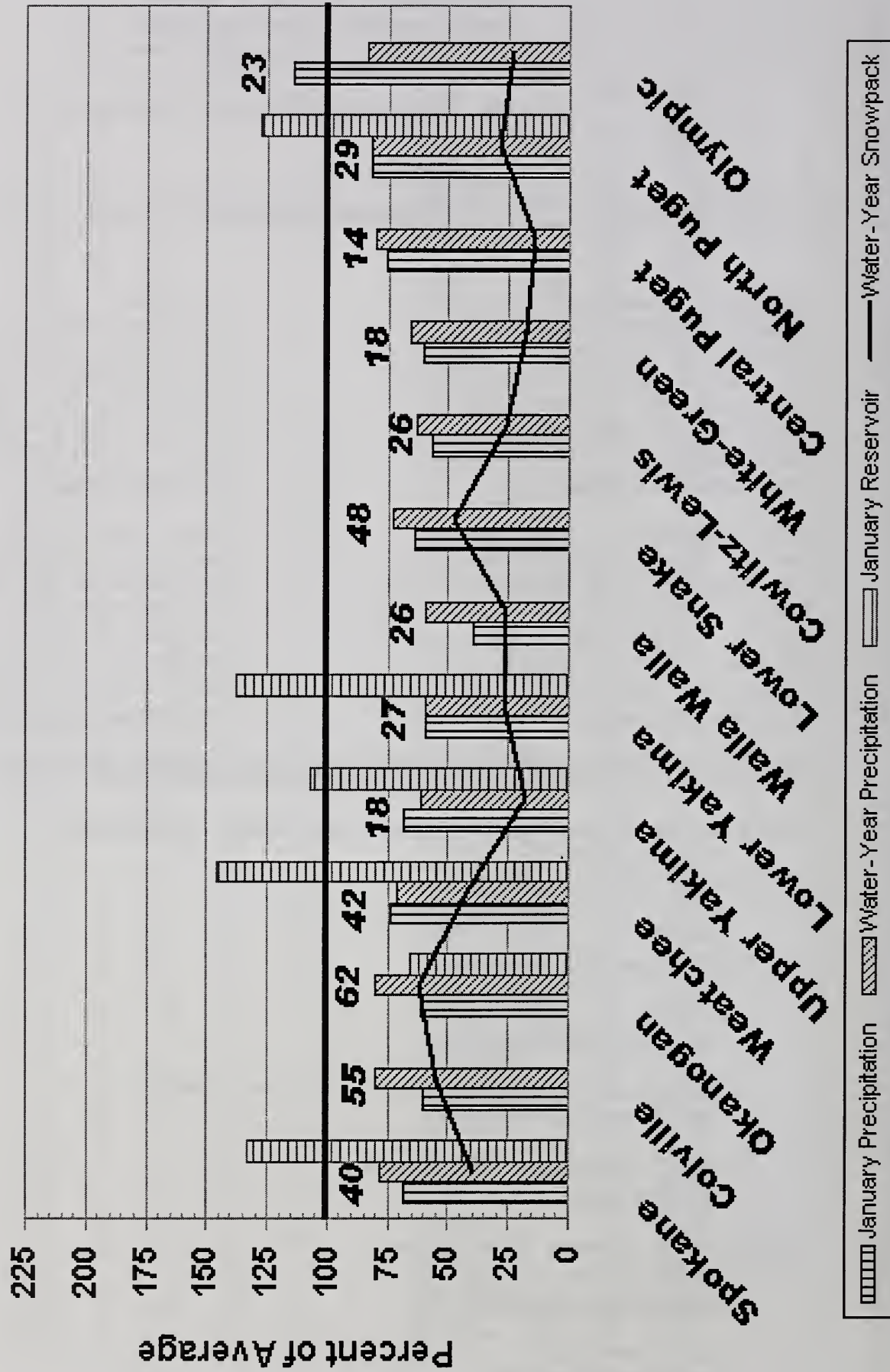
<http://www.wa.nrcs.usda.gov/nrcs>

NRCS National:

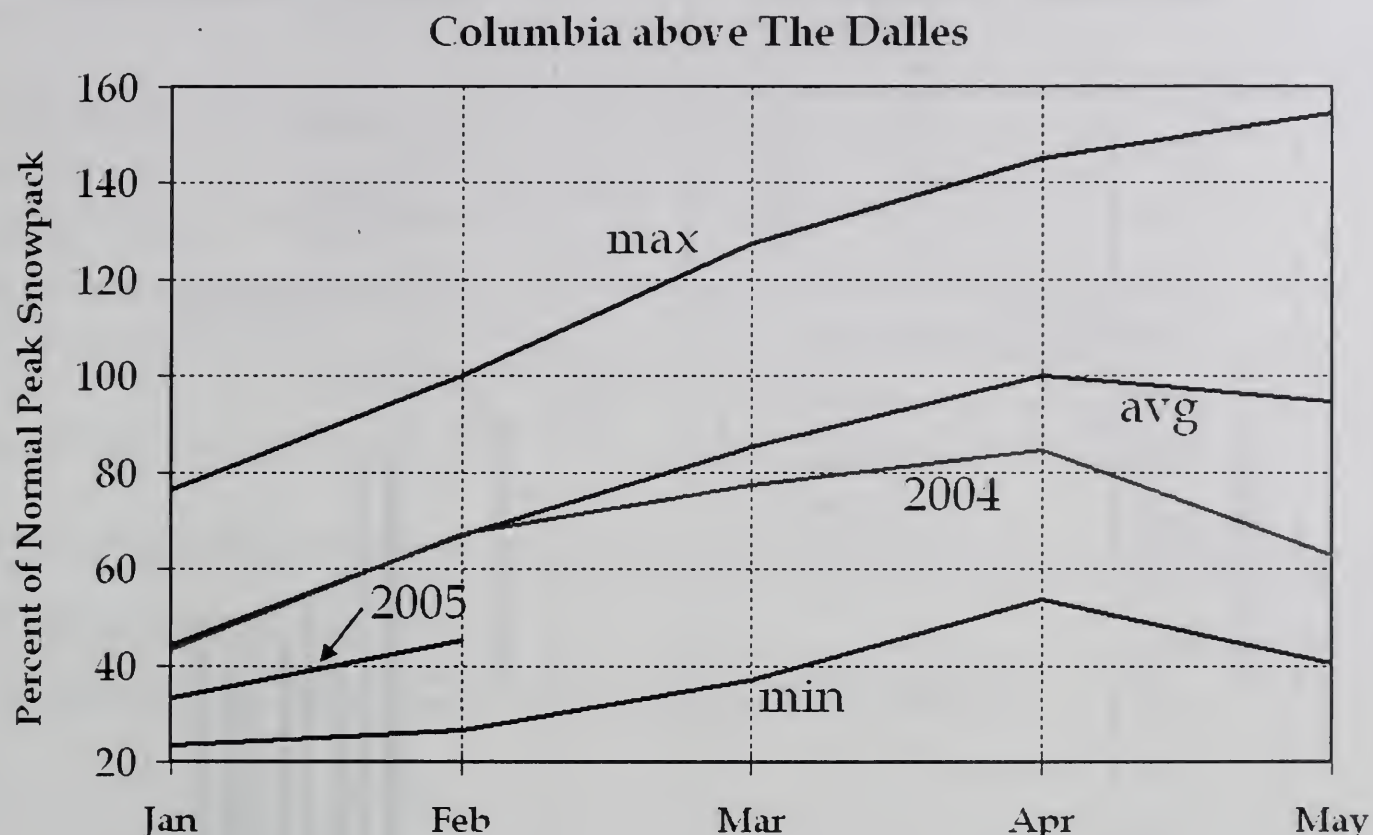
<http://www.nrcs.usda.gov>

February 1, 2005 - Snowpack, Precipitation and Reservoir Conditions at a Glance

(Water Year = October 1, 2004 - Current Date)



Columbia Basin Snowpack Summary



February 1, 2005

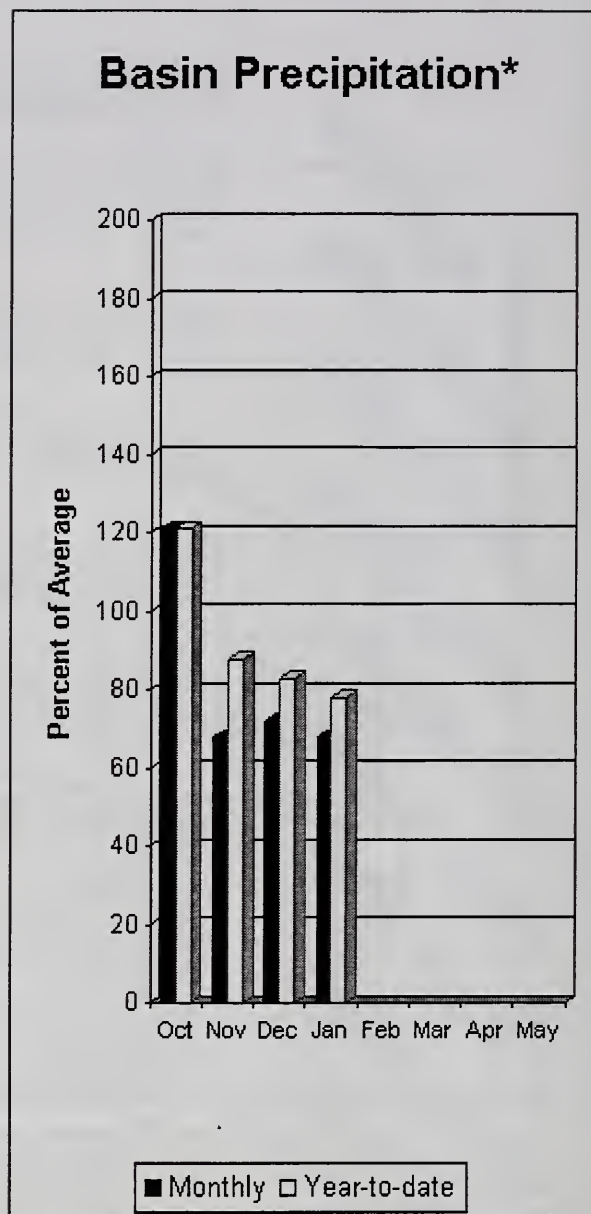
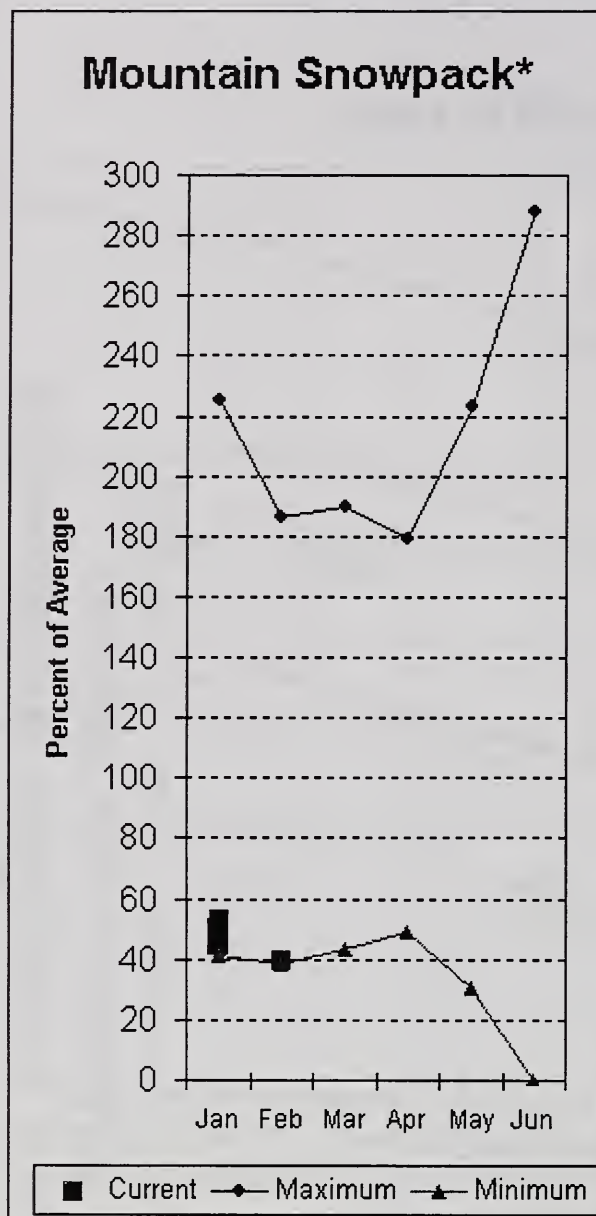
The composite Columbia Basin snowpack above The Dalles is currently at 68 percent of average. This is down from 75 percent on January 1. This compares to 101 percent at this time last year. The overall snowpack is at 45 percent of the average peak accumulation, compared to 67 percent last year. This is the lowest snowpack since the 2001 water year.

The snowpack above Castlegar is at 79 percent of average, compared to 81 percent on January 1 and 131 percent last year. The snowpack above Grand Coulee is at 74 percent, compared to 79 percent on January 1 and 129 percent last year. The Snake River snowpack above Ice Harbor is at 63 percent compared to 73 percent on January 1 and 122 percent last year.

The Canadian snowpack is holding its' own this year, increasing to 92 percent of average, compared to 90 percent last month. The Upper Columbia in Canada was the only area that received an increase in snowpack percentage. It's difficult to find a decent snowpack anywhere in the U.S. portion of the Columbia Basin. Some of the worst are: Spokane (44%), North Cascades (45%), Yakima (23%), Eastern Oregon (53%), Salmon (62%), Clearwater (55%), and John Day (41%).

Forty-one (41) SNOTEL sites recorded new minimum swe values for February 1. Another 35 were recorded near record lows.

Spokane River Basin



*Based on selected stations

The February 1 forecasts for summer runoff within the Spokane River Basin are 58% of average near Post Falls and 62% at Long Lake. The Chamokane River near Long Lake forecasted to have 54% of average flows for the May-August period. The forecast is based on a basin snowpack that is 40% of average and precipitation that is 78% of average for the water year. Precipitation for January was below normal at 68% of average. Streamflow on the Spokane River at Long Lake was 104% of average for January. February 1 storage in Coeur d'Alene Lake was 154,000 feet, 133% of average and 65% of capacity. Snowpack at Quartz Peak SNOTEL site was 33% of average with 5.1 inches of water content. Average temperatures in the Spokane basin were 1-3 degrees above normal January and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Spokane River Basin

SPOKANE RIVER BASIN Streamflow Forecasts - February 1, 2005

		<<===== Drier ===== Future Conditions ===== Wetter =====>>						
Forecast Point	Forecast Period	=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SPOKANE near Post Falls (2)	APR-SEP	935	1290	1530	58	1770	2130	2650
	APR-JUL	890	1230	1470	58	1710	2050	2550
SPOKANE at Long Lake (2)	APR-JUL	1050	1450	1720	60	1990	2390	2850
	APR-SEP	1190	1610	1890	62	2170	2590	3070
CHAMOKANE CREEK near Long Lake	MAY-AUG	3.0	4.5	5.5	54	7.4	10.1	10.2

SPOKANE RIVER BASIN Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
COEUR D'ALENE	238.5	154.3	69.5	115.6

SPOKANE RIVER BASIN Watershed Snowpack Analysis - February 1, 2005

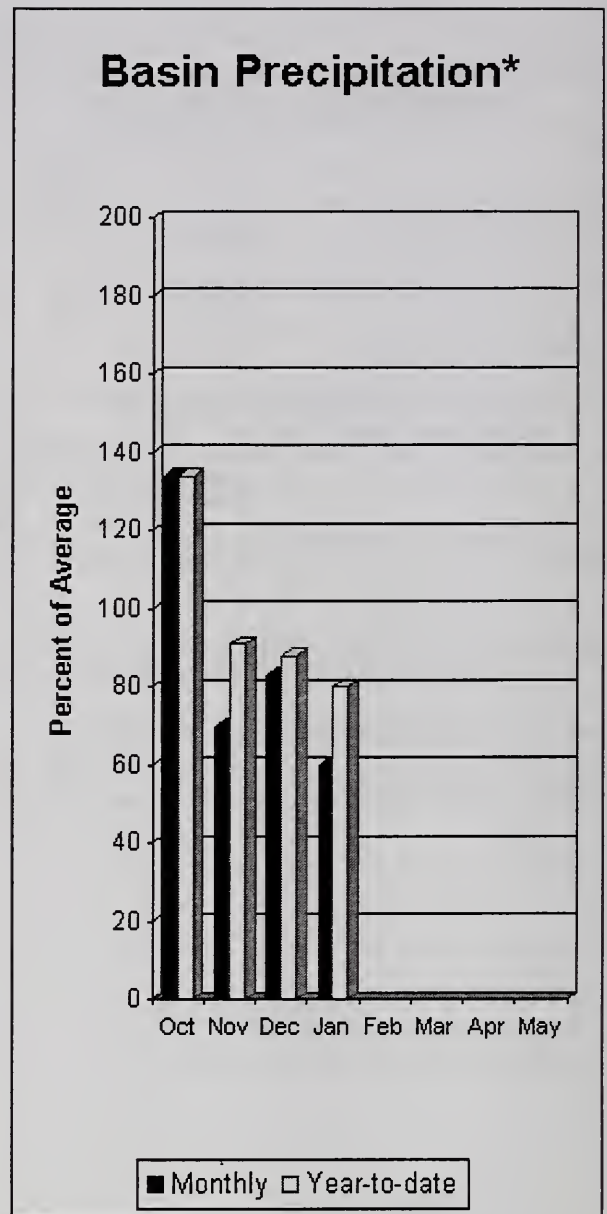
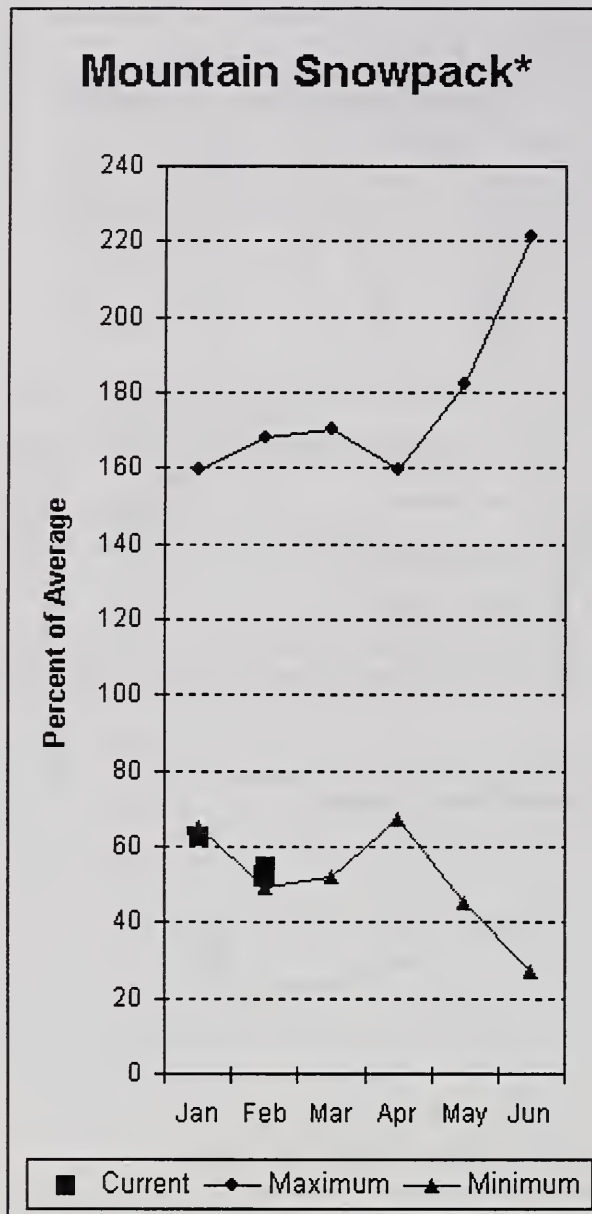
Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
SPOKANE RIVER	10	36	40
NEWMAN LAKE	1	24	33

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

Colville - Pend Oreille River Basins



*Based on selected stations

The April – September average forecast for the Kettle River streamflow is 100%, Colville at Kettle Falls is 35%, and Priest River near the town of Priest River is 74%. January streamflow was 136% of average on the Pend Oreille River, 163% on the Columbia at the International Boundary and 295% on the Kettle River. February 1 snow cover was 55% of average in the Pend Oreille Basin River Basin and 94% in the Kettle River Basin (including Canadian data). Bunchgrass Meadows SNOTEL site had 13.6 inches of snow water on the snow pillow. Normally Bunchgrass would have 18.6 inches on February 1. Precipitation during January was 60% of average, bringing the year-to-date precipitation to 80% of average. Average temperatures were 1 degree above normal for January and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Colville - Pend Oreille River Basins

Streamflow Forecasts - February 1, 2005

		<<===== Drier ===== Future Conditions ===== Wetter =====>>						
Forecast Point	Forecast Period	Chance Of Exceeding *						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
PEND OREILLE Lake Inflow (2)	APR-JUL	5220	6980	8170	64	9360	11120	12700
	APR-SEP	5690	7610	8920	64	10230	12150	13900
PRIEST near Priest River (1,2)	APR-JUL	445	555	605	74	655	765	815
	APR-SEP	355	555	645	74	735	940	870
PEND OREILLE bl Box Canyon (2)	APR-JUL	5710	7300	8390	65	9480	11070	12900
	APR-SEP	5930	7850	9160	65	10470	12390	14100
COLVILLE at Kettle Falls	APR-SEP	36	45	51	36	68	92	141
	APR-JUL	31	39	45	35	61	84	128
KETTLE near Laurier	APR-SEP	1610	1820	1970	100	2120	2330	1970
	APR-JUL	1540	1740	1870	100	2000	2200	1870
COLUMBIA at Grand Coulee Dm (1,2)	APR-SEP	43634	52207	56100	88	59990	68570	64000
	APR-JUL	36546	43735	47000	87	50260	57450	53800

COLVILLE - PEND OREILLE RIVER BASINS Reservoir Storage (1000 AF) - End of January

COLVILLE - PEND OREILLE RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

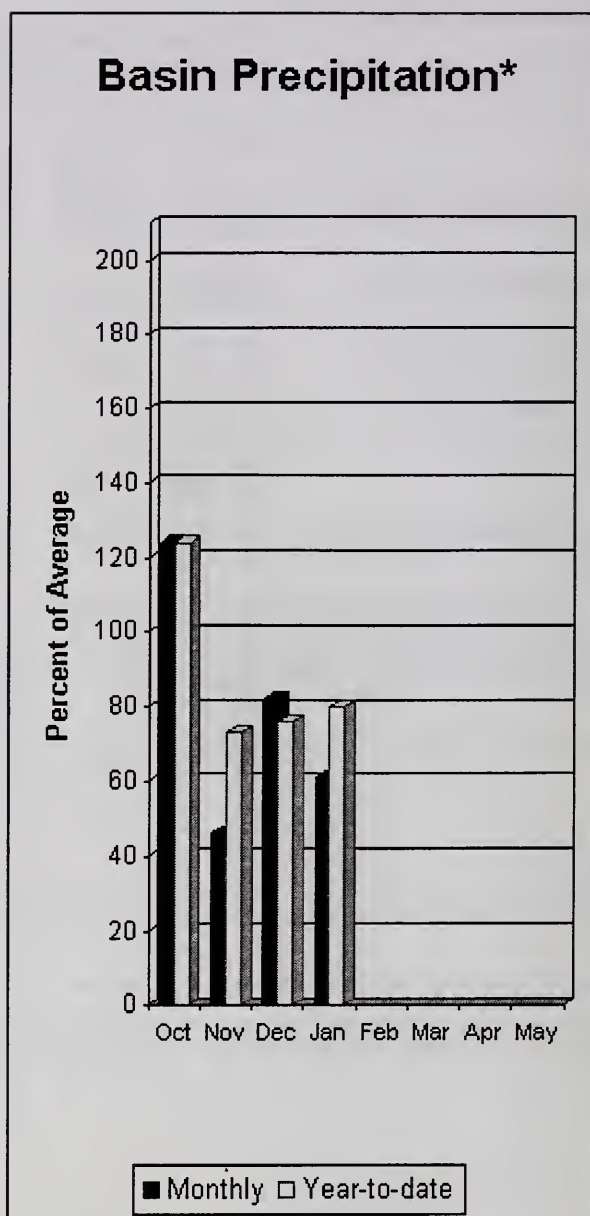
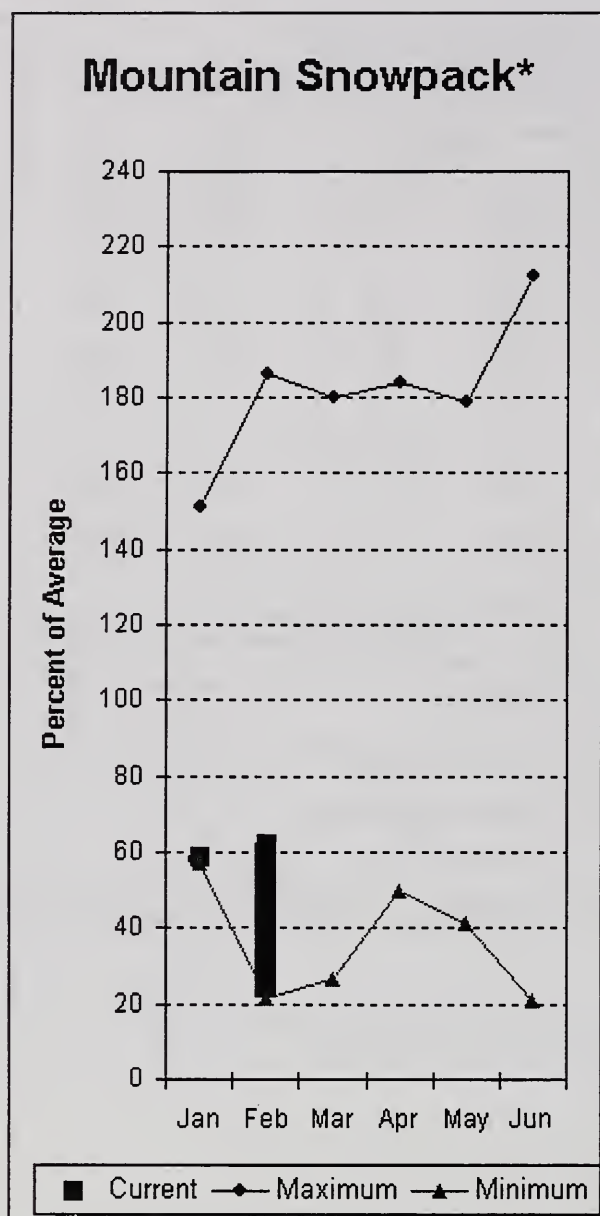
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROOSEVELT	5232.0	6121.6	---	4222.2	COLVILLE RIVER	0	81	0
BANKS	715.0	672.2	---	630.6	PEND OREILLE RIVER	9	51	53
					KETTLE RIVER	4	91	94

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

Okanogan - Methow River Basins



*Based on selected stations

Summer runoff average forecast for the Okanogan River at Malott is 69%, Similkameen River is 62%, Methow River is 56% and Salmon Creek is 31%. February 1 snow cover on the Okanogan was 67% of average, Omak Creek was 50% and the Methow was 42%. January precipitation in the Okanogan-Methow was 61% of average, with precipitation for the water year at 80% of average. January streamflow for the Methow River was 177% of average, 297% for the Okanogan River and 354% for the Similkameen. Snow-water content at Salmon Meadows SNOTEL was 4.8 inches. Average for this site is 7.5 inches on February 1. Combined storage in the Conconully Reservoirs was 11,000-acre feet, which is 47% of capacity and 66% of the February 1 average. Temperatures were near normal for January and 2 degrees above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Okanogan - Methow River Basins

Streamflow Forecasts - February 1, 2005

Forecast Point	Forecast Period	<----- Drier ----- Future Conditions ----- Wetter ----->						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SIMILKAMEEN near Nighthawk (1)	APR-JUL	510	735	835	62	935	1165	1350
	APR-SEP	602	777	895	62	1075	1485	1450
OKANOGAN near Tonasket (1)	APR-JUL	721	946	1100	70	1320	1800	1580
	APR-SEP	804	1058	1230	70	1480	2030	1770
OKANOGAN at Malott (1)	APR-JUL	739	972	1130	69	1360	1860	1635
	APR-SEP	817	1081	1260	69	1520	2090	1826
Salmon Creek nr Conconully	APR-JUL	1.9	4.3	6.4	34	9.0	13.5	18.7
	APR-SEP	1.6	3.9	6.1	31	8.7	13.5	19.7
TOATS COULEE CREEK nr Loomis	APR-JUL	8.0	14.6	19.2	69	26	35	28
	APR-SEP	9.7	15.8	20	67	26	36	30
Beaver Creek blw SF nr Twisp	APR-SEP	2.5	4.2	5.3	44	7.9	11.7	12.1
	APR-JUL	2.3	3.9	5.1	46	7.6	11.3	11.1
METHOW RIVER near Pateros	APR-SEP	240	425	555	56	685	870	985
	APR-JUL	340	440	510	56	580	680	910

OKANOGAN - METHOW RIVER BASINS Reservoir Storage (1000 AF) - End of January

OKANOGAN - METHOW RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

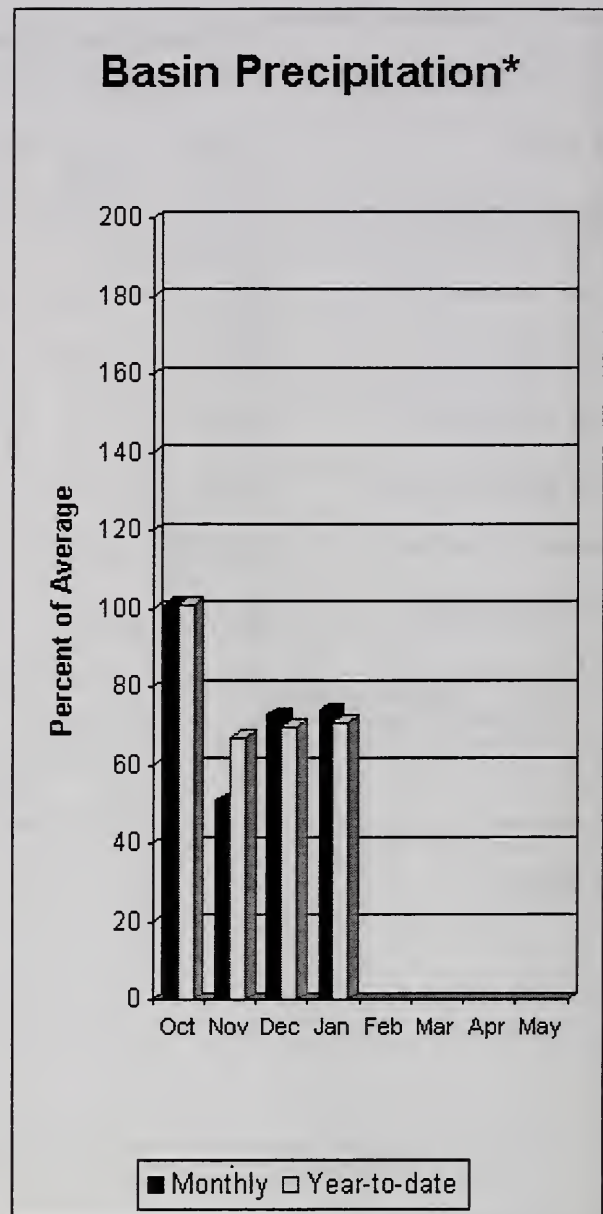
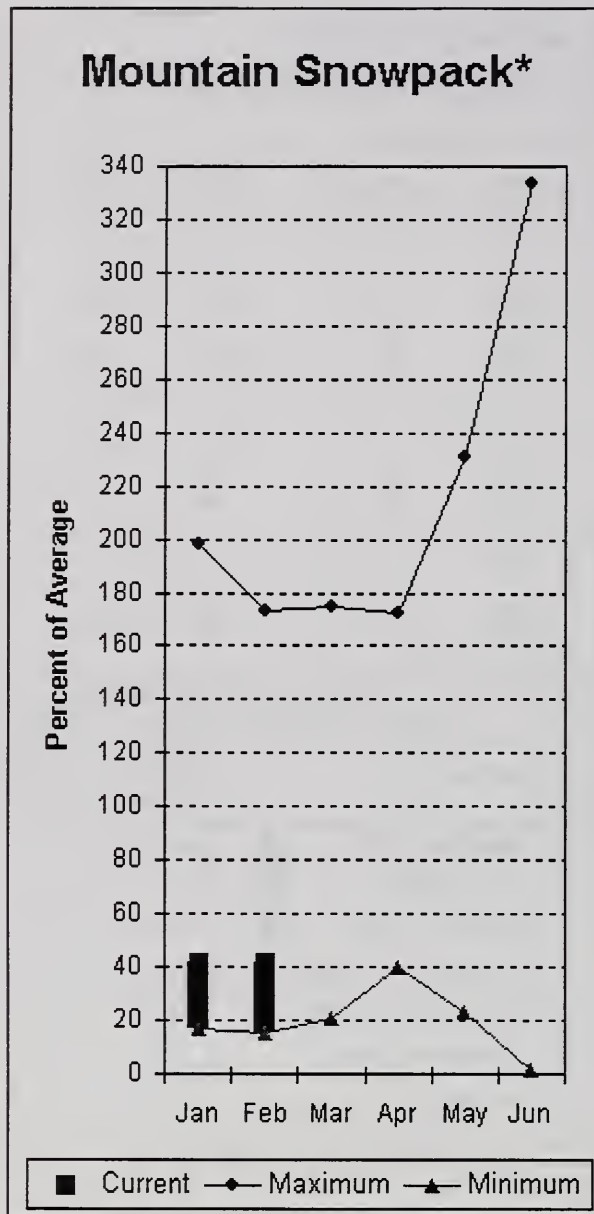
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
SALMON LAKE	10.5	6.4	---	8.4	OKANOGAN RIVER	13	77	67
CONCONULLY RESERVOIR	13.0	4.6	---	8.2	OMAK CREEK	3	72	50
					SANPOIL RIVER	1	103	86
					SIMILKAMEEN RIVER	1	64	58
					TOATS COULEE CREEK	1	111	77
					CONCONULLY LAKE	3	71	55
					METHOW RIVER	5	52	42

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

Wenatchee - Chelan River Basins



*Based on selected stations

Precipitation during January was 74% of average in the basin and 71% for the year-to-date. Runoff for Entiat River is forecast to be 45% of average for the summer. The February-September average forecast for Chelan River is 59%, Wenatchee River at Plain is 55% and Stehekin is 61%. Icicle, Stemilt and Squilchuck creeks are all forecasted to have below average flows this year as well. January average streamflows on the Chelan River were 302% and on the Wenatchee River 253%. February 1 snowpack in the Wenatchee River Basin was 31% of average; the Chelan, 40%; the Entiat, 57%; Stemilt Creek, 39% and Colockum Creek, 0%. Reservoir storage in Lake Chelan was 462,000-acre feet, 146% of February 1 average and 68% of capacity. Lyman Lake SNOTEL had the most snow water with 22 inches of water. This site would normally have 43.4 inches on February 1. Temperatures were near normal for January and 2 degrees above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Wenatchee - Chelan River Basins

Streamflow Forecasts - February 1, 2005

		<===== Drier ===== Future Conditions ===== Wetter =====>						
Forecast Point	Forecast Period	=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
CHELAN RIVER near Chelan	APR-SEP	530	635	705	59	775	880	1190
	APR-JUL	460	550	610	58	670	760	1050
STEHEKIN near STEHEKIN	APR-SEP	395	465	510	61	555	625	830
	APR-JUL	340	395	430	61	465	520	700
ENTIAT RIVER nr Ardenvoir	APR-SEP	90	101	109	45	126	151	240
	APR-JUL	84	95	102	47	117	140	215
WENATCHEE at Plain	APR-SEP	563	621	660	55	730	840	1200
	APR-JUL	480	560	610	57	660	740	1080
WENATCHEE R. at Peshastin	APR-SEP	549	811	990	60	1169	1430	1640
	APR-JUL	369	673	880	60	1085	1390	1480
STEMILT CK nr Wenatchee (miner's in)	MAY-SEP	19.0	51	73	53	95	127	138
ICICLE CREEK near Leavenworth	APR-SEP	150	175	190	55	205	230	345
	APR-JUL	155	167	176	55	191	211	320
COLUMBIA R. bl Rock Island Dam (2)	APR-SEP	49851	56430	60900	88	65370	71950	69500
	APR-JUL	39888	46742	51400	87	56060	62910	59000

WENATCHEE - CHELAN RIVER BASINS Reservoir Storage (1000 AF) - End of January

WENATCHEE - CHELAN RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

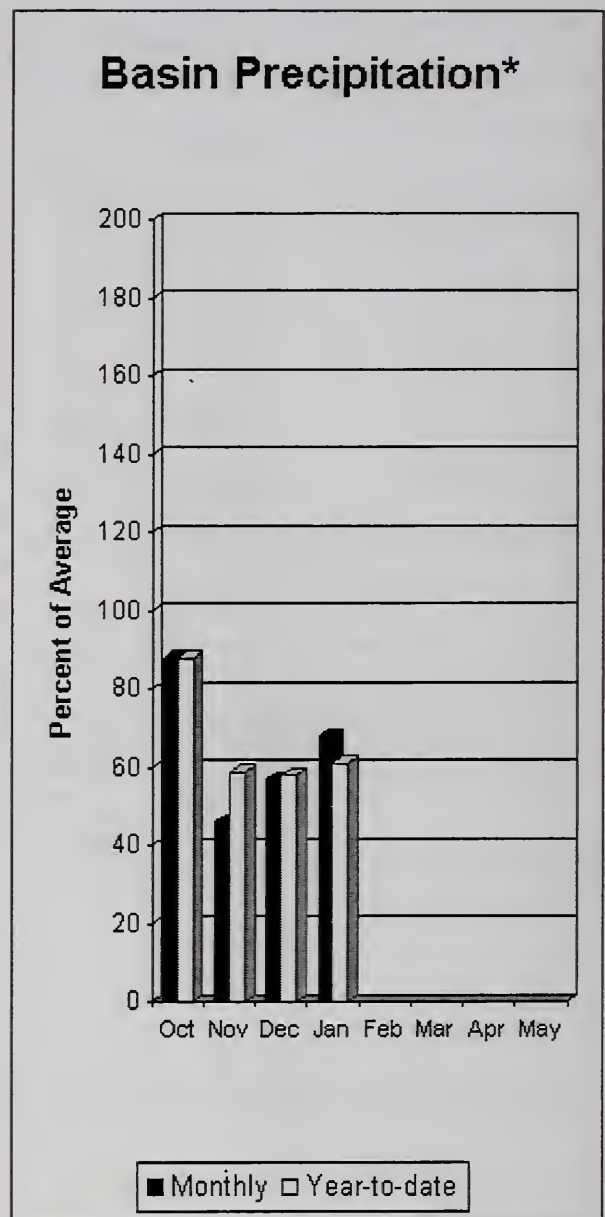
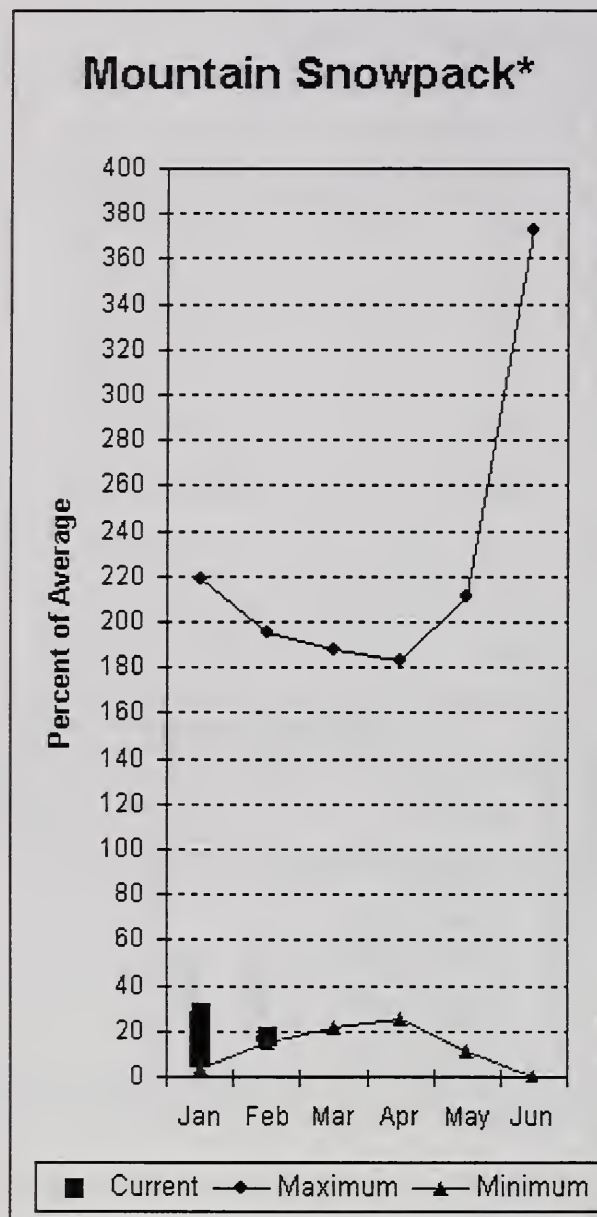
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CHELAN LAKE	676.1	461.7	---	315.5	CHELAN LAKE BASIN	5	57	40
					ENTIAT RIVER	2	76	57
					WENATCHEE RIVER	11	37	31
					STEMILT CREEK	1	36	39
					COLOCKUM CREEK	1	0	0

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

Upper Yakima River Basin



*Based on selected stations

February 1 reservoir storage for the Upper Yakima reservoirs was 475,000-acre feet, 107% of average. Forecasts for the Yakima River at Cle Elum are 59% of average and the Teanaway River near Cle Elum is at 51%. Lake inflows are all forecasted to be near that same range this summer. January streamflows within the basin were Yakima near Cle Elum at 165% and Cle Elum River near Roslyn at 220%. February 1 snowpack was 18% based upon 9 snow courses and SNOTEL readings within the Upper Yakima Basin. Precipitation was 68% of average for January and 61% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Upper Yakima River Basin

Streamflow Forecasts - February 1, 2005

		<===== Drier ===== Future Conditions ===== Wetter =====>						
Forecast Point	Forecast Period	Chance Of Exceeding *						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
=====								
KEECHELUS LAKE INFLOW	APR-JUL	48	62	72	60	82	96	121
	APR-SEP	64	73	79	59	90	105	133
KACHESS LAKE INFLOW	APR-JUL	40	52	60	54	68	80	111
	APR-SEP	53	60	65	54	74	87	120
CLE ELUM LAKE INFLOW	APR-JUL	180	215	240	59	265	300	410
	APR-SEP	221	247	265	59	295	335	450
YAKIMA at Cle Elum	APR-JUL	360	435	485	59	535	610	820
	APR-SEP	450	498	530	59	585	665	900
TEANAWAY near Cle Elum	APR-JUL	60	67	72	50	82	96	143
	APR-SEP	62	69	74	51	84	98	146

UPPER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of January

UPPER YAKIMA RIVER BASIN Watershed Snowpack Analysis - February 1, 2005

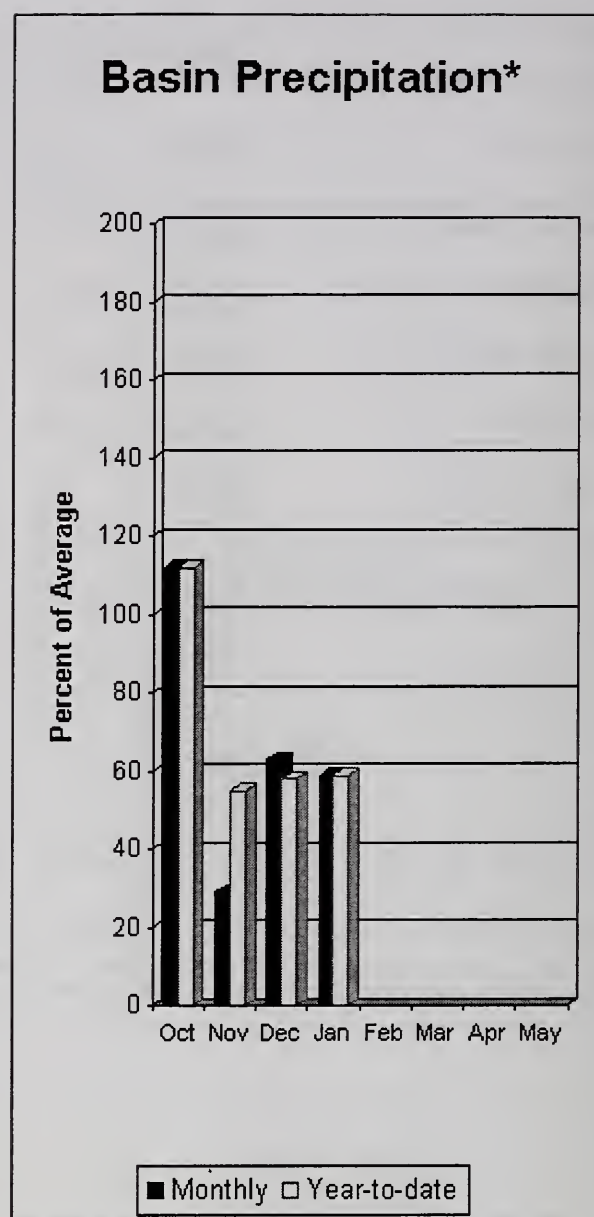
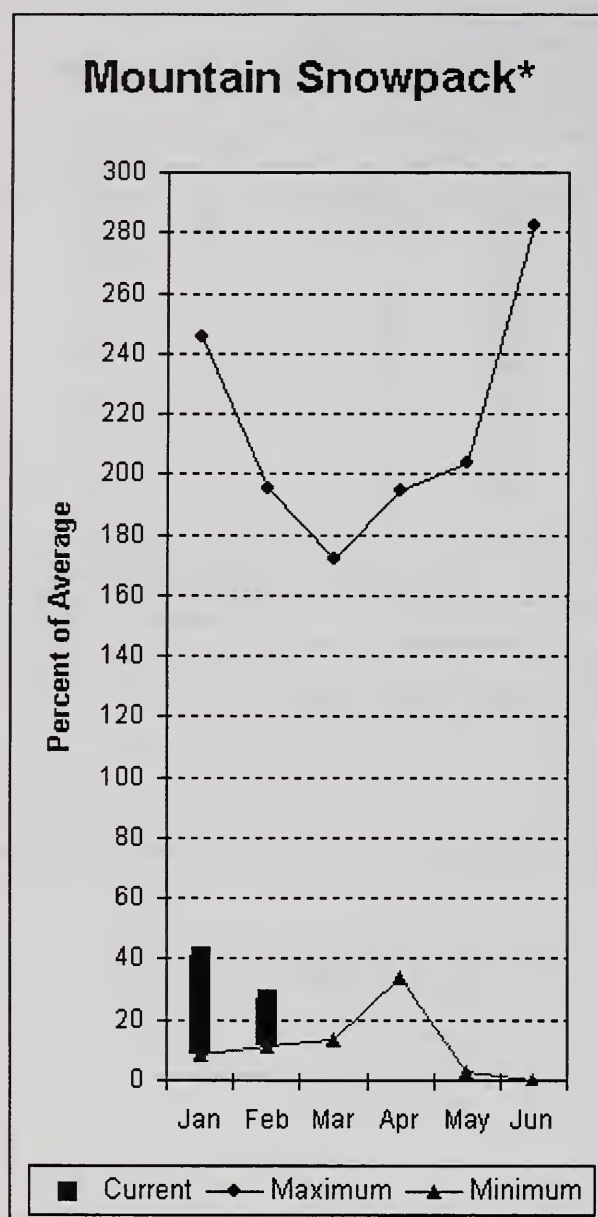
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
KEECHELUS	157.8	98.5	---	89.9	UPPER YAKIMA RIVER	9	19	18
KACHESS	239.0	120.5	---	139.4				
CLE ELUM	436.9	255.6	---	215.4				

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Yakima River Basin



*Based on selected stations

January average streamflows within the basin were: Yakima River near Parker, 131%; Naches River near Naches, 134%; and Yakima River at Kiona, 71%. February 1 reservoir storage for Bumping and Rimrock reservoirs was 167,000-acre feet, 138% of average. Forecast averages for Yakima River near Parker are 55%; American River near Nile, 59%; Ahtanum Creek, 29%; and Klickitat River near Glenwood, 49%. February 1 snowpack was 27% based upon 7 snow courses and SNOTEL readings within the Lower Yakima Basin and Ahtanum Creek reported in at %31 of average. Precipitation was 59% of average for January and 59% year-to-date for water. Temperatures were near normal for January and 2 degrees above average for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they February differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Lower Yakima River Basin

Streamflow Forecasts - February 1, 2005

		<<===== Drier ===== Future Conditions ===== Wetter =====>>						
Forecast Point	Forecast Period	Chance Of Exceeding *						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BUMPING LAKE INFLOW	APR-SEP	46	61	72	55	83	98	132
	APR-JUL	44	58	67	55	76	90	122
AMERICAN RIVER near Nile	APR-SEP	48	61	69	59	77	90	118
	APR-JUL	44	55	63	58	71	82	108
RIMROCK LAKE INFLOW	APR-SEP	109	124	134	56	151	177	240
	APR-JUL	81	101	114	56	127	147	205
NACHES near Naches	APR-SEP	290	370	420	50	470	550	835
	APR-JUL	270	335	380	50	425	490	760
AHTANUM CREEK at Union Gap	APR-SEP	6.1	8.1	9.4	29	13.9	21	32
	APR-JUL	5.0	6.6	7.7	26	12.0	18.2	30
YAKIMA near Parker	APR-SEP	730	920	1050	55	1180	1370	1920
	APR-JUL	655	825	945	55	1065	1235	1730
KLICKITAT near Glenwood	APR-JUN	44	57	65	50	73	86	129
	APR-SEP	50	68	80	49	92	110	163

LOWER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of January

LOWER YAKIMA RIVER BASIN Watershed Snowpack Analysis - February 1, 2005

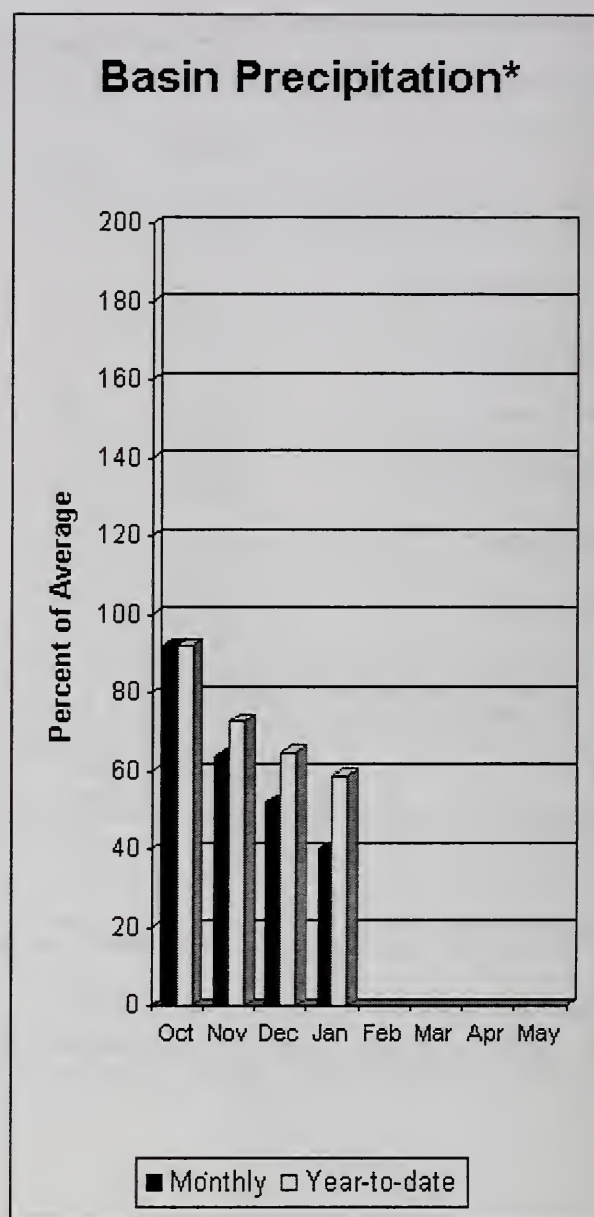
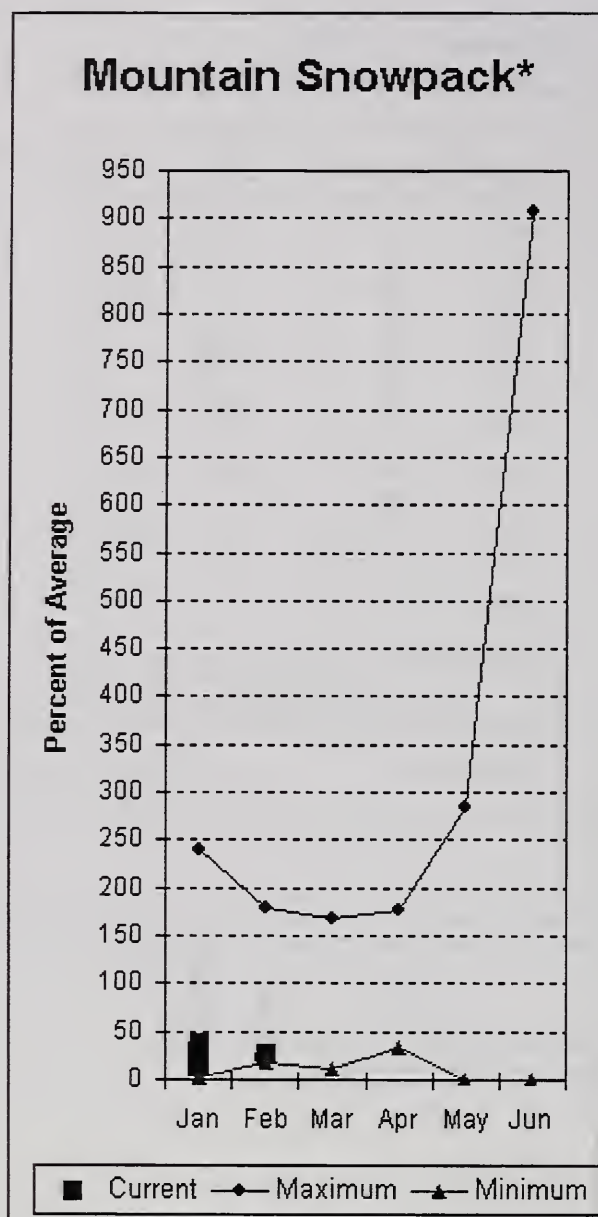
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BUMPING LAKE	33.7	26.8	---	9.9				
RIMROCK	198.0	140.6	---	111.8				

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

Walla Walla River Basin



*Based on selected stations

January precipitation was 40% of average, maintaining the year-to-date precipitation at 59% of average. Snowpack in the basin was 26% of average. Streamflow forecasts are 37% of average for Mill Creek and 73% for the SF Walla Walla near Milton-Freewater. January streamflow was 65% of average for the Walla Walla River. Average temperatures were near normal for January and 1 degree above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Walla Walla River Basin

Streamflow Forecasts - February 1, 2005

		<===== Drier ===== Future Conditions ===== Wetter =====>						
Forecast Point	Forecast Period	=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
MILL CREEK at Walla Walla	APR-SEP	3.8	5.6	6.8	37	10.1	14.9	18.4
	APR-JUL	3.7	5.5	6.7	37	10.0	14.8	18.2
SF WALLA WALLA near Milton-Freewater	APR-JUL	28	35	39	72	43	50	54
	APR-SEP	37	44	49	73	54	61	67

WALLA WALLA RIVER BASIN Reservoir Storage (1000 AF) - End of January

WALLA WALLA RIVER BASIN Watershed Snowpack Analysis - February 1, 2005

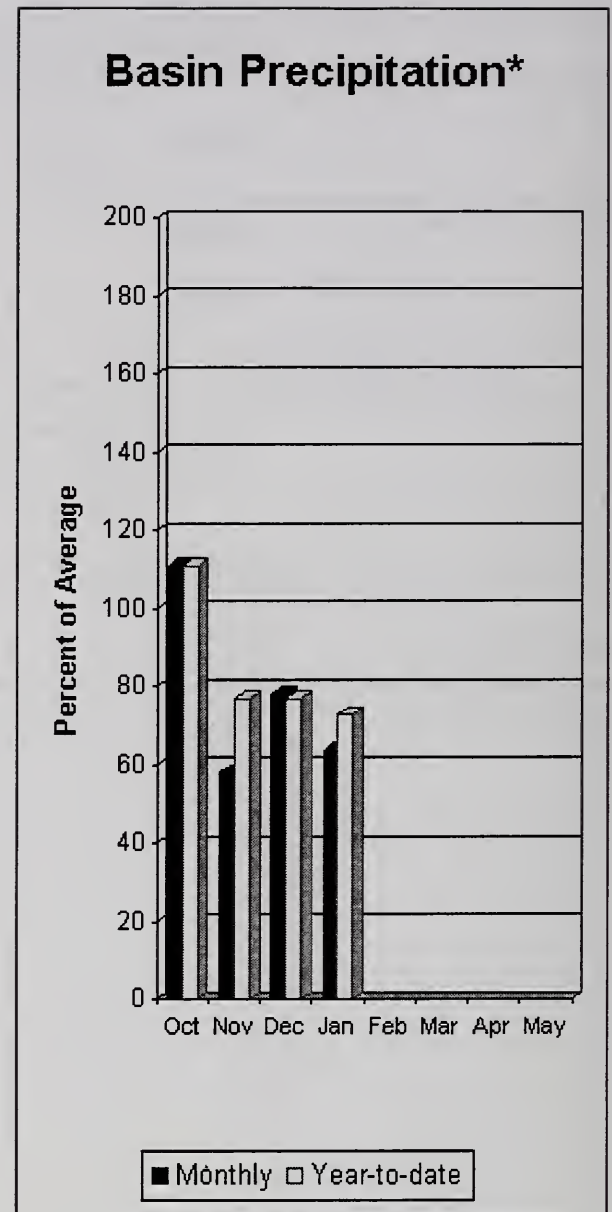
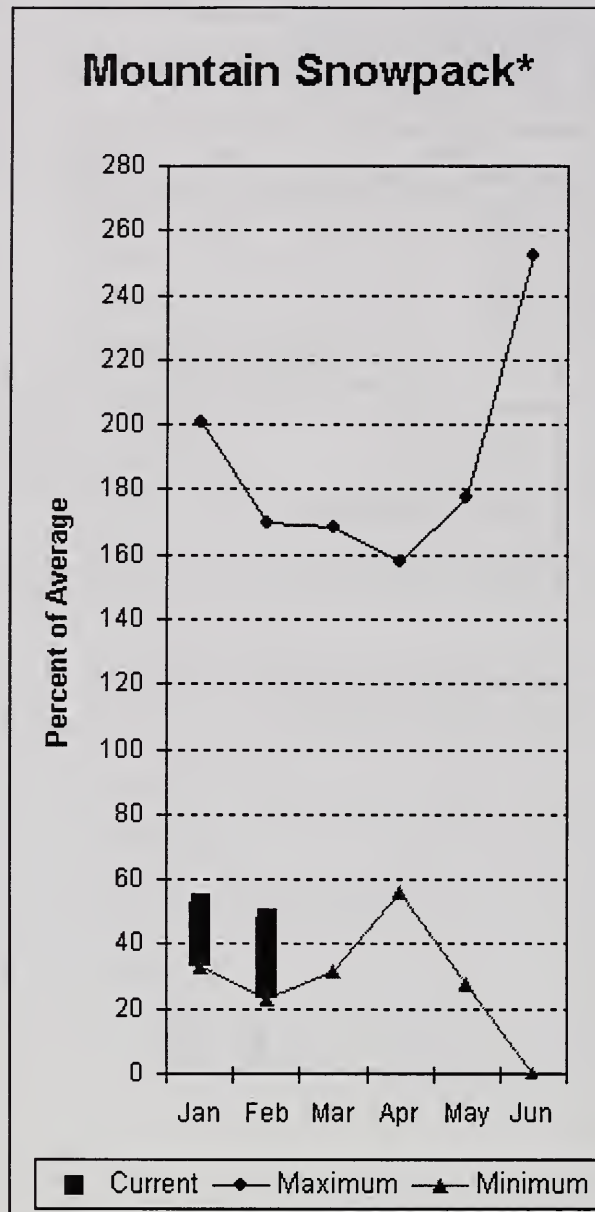
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					WALLA WALLA RIVER	2	22	26

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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Lower Snake River Basin



*Based on selected stations

The April - September forecast is for 67% for Clearwater River at Spalding. The Snake and Grande Ronde rivers can expect summer flows to be about 59% and 66% of normal respectively. January precipitation was 64% of average, bringing the year-to-date precipitation to 73% of average. February 1 snowpack readings averaged 48% of normal. January streamflow was 71% of average for Snake River below Lower Granite Dam and 34% for Grande Ronde River near Troy. Average temperatures were 2-5 degrees above normal for January and 3 degrees above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Lower Snake River Basin

Streamflow Forecasts - February 1, 2005

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
GRANDE RONDE at Troy (1)	MAR-JUL	462	852	1030	65	1208	1600	1580
	APR-SEP	386	739	900	66	1061	1415	1370
CLEARWATER at Spalding (1,2)	APR-JUL	3554	4403	4980	67	5910	7960	7430
	APR-SEP	3834	4683	5260	67	6190	8240	7850
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	8458	10984	12700	59	15610	22010	21600
	APR-SEP	9531	12371	14300	59	17570	24770	24100

LOWER SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of January

LOWER SNAKE RIVER BASIN Watershed Snowpack Analysis - February 1, 2005

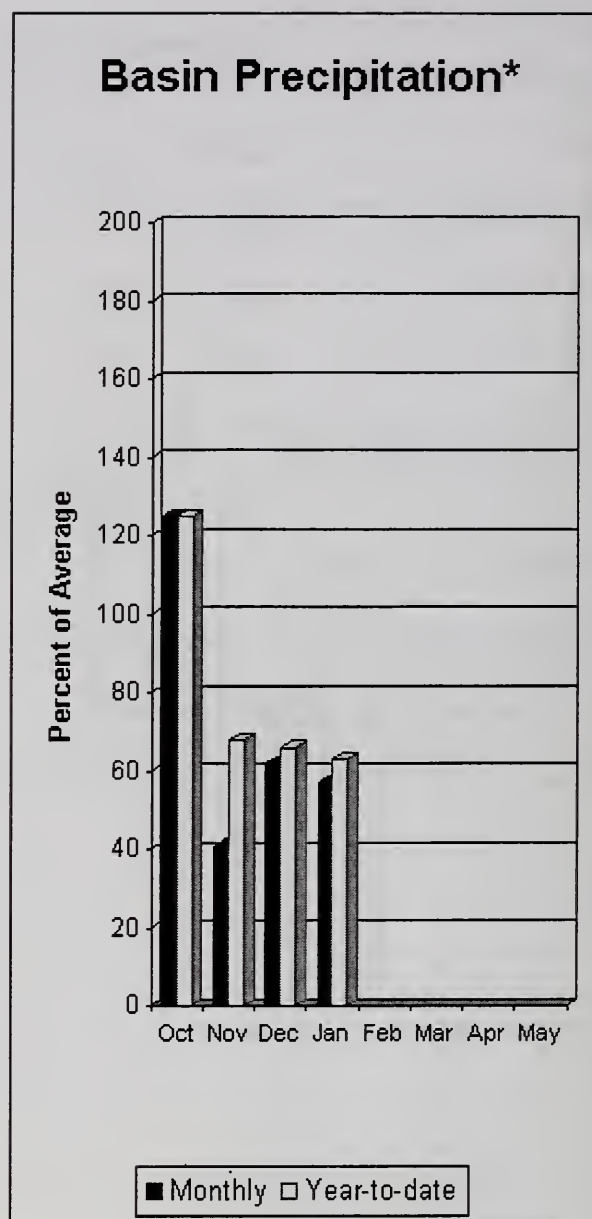
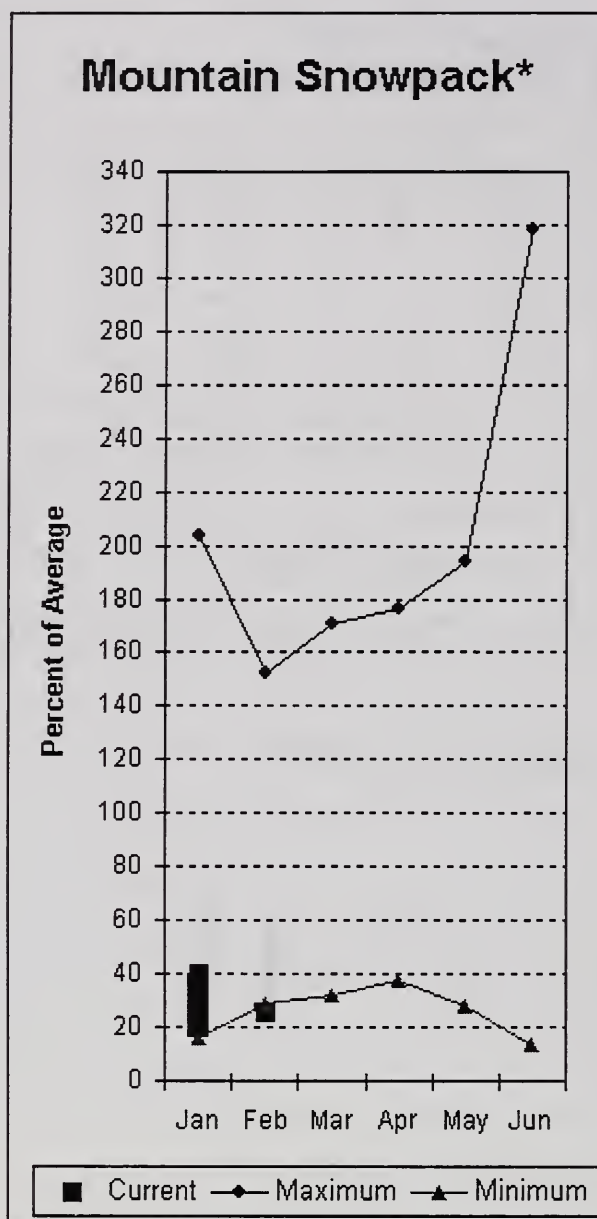
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					LOWER SNAKE, GRANDE RONDE	15	40	48

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Cowlitz - Lewis River Basins



*Based on selected stations

Forecasts for April – September streamflows within the basin are Lewis River at Ariel, 63% and Cowlitz River at Castle Rock, 63% of average. The Columbia at The Dalles is forecasted to have 74% of average flows this summer. January average streamflow for Cowlitz River was 79% and 79% for Lewis River. The Columbia River at The Dalles was 113% of average. January precipitation was 57% of average and the water-year average was 63%. February 1 snow cover for Cowlitz River was 25%, and Lewis River was 26% of average. Average temperatures were 2 degrees above normal during January and 2 degrees above normal throughout the water year.

For more information contact your local Natural Resources Conservation Service office.

Cowlitz - Lewis River Basins

Streamflow Forecasts - February 1, 2005

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
LEWIS at Ariel (2)	APR-JUL	345	520	640	62	760	930	1031
	APR-SEP	440	625	745	63	865	1045	1176
COWLITZ R. bl Mayfield Dam (2)	APR-SEP	136	787	1230	64	1675	2320	1922
	APR-JUL	17.0	635	1080	64	1525	2180	1689
COWLITZ R. at Castle Rock (2)	APR-SEP	113	1034	1660	63	2285	3210	2639
	APR-JUL	672	1129	1440	63	1750	2210	2295
KLICKITAT near Glenwood	APR-JUN	44	57	65	50	73	86	129
	APR-SEP	50	68	80	49	92	110	163
COLUMBIA R. at The Dalles (2)	APR-SEP	55864	66246	73300	74	80350	90740	98600
	APR-JUL	43683	55006	62700	74	70390	81720	84600

COWLITZ - LEWIS RIVER BASINS Reservoir Storage (1000 AF) - End of January

COWLITZ - LEWIS RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					LEWIS RIVER	4	25	26
					COWLITZ RIVER	5	23	25

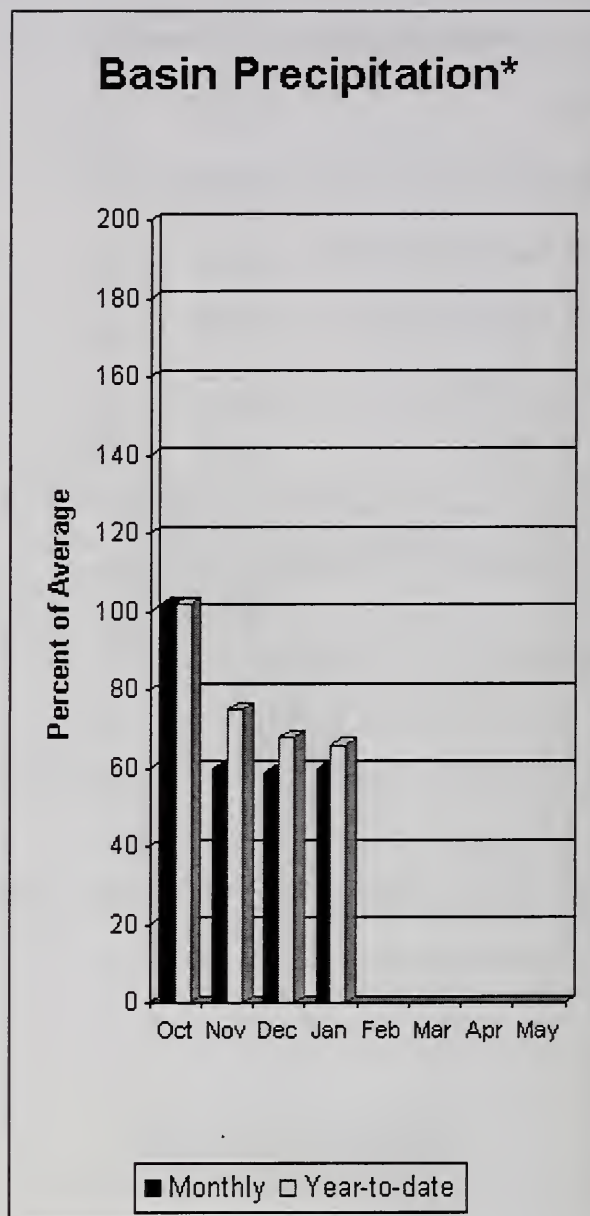
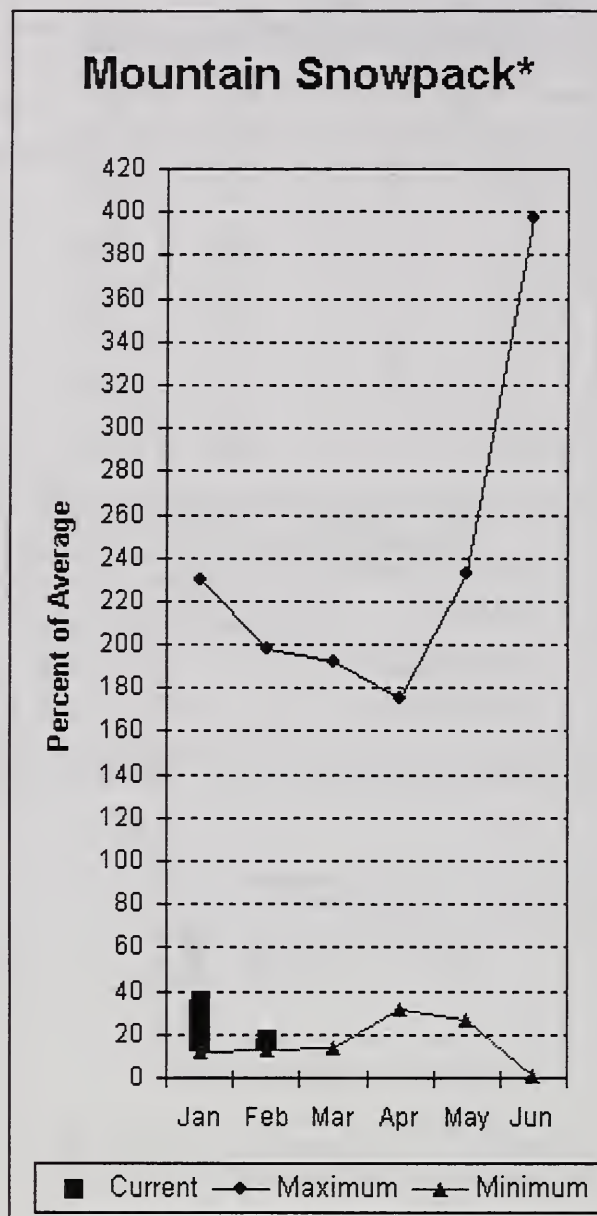
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White - Green River Basins



*Based on selected stations

Summer runoff is forecast to be 52% of normal for the Green River below Howard Hanson Dam and 62% for the White River near Buckley. February 1 snowpack was 31% of average in both White River and Puyallup River basins and 4% in the Green River Basin. Water content on February 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 7.6 inches. This site has a February 1 average of 22.1 inches. January precipitation was 60% of average, bringing the water year-to-date to 66% of average for the basins. Average temperatures in the area were 2 degrees above normal for January and 2 degrees above normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

White - Green - Puyallup River Basins

Streamflow Forecasts - February 1, 2005

		<<===== Drier ===== Future Conditions ===== Wetter =====>>						
Forecast Point	Forecast Period	Chance Of Exceeding *						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
=====								
WHITE near Buckley (1,2)	APR-JUL	160	230	260	59	290	360	440
	APR-SEP	215	295	330	62	365	445	534
=====								
GREEN below Howard Hanson (1,2)	APR-JUL	29	91	119	49	147	210	243
	APR-SEP	47	111	140	52	169	234	268

WHITE - GREEN - PUYALLUP RIVER BASINS Reservoir Storage (1000 AF) - End of January

WHITE - GREEN - PUYALLUP RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

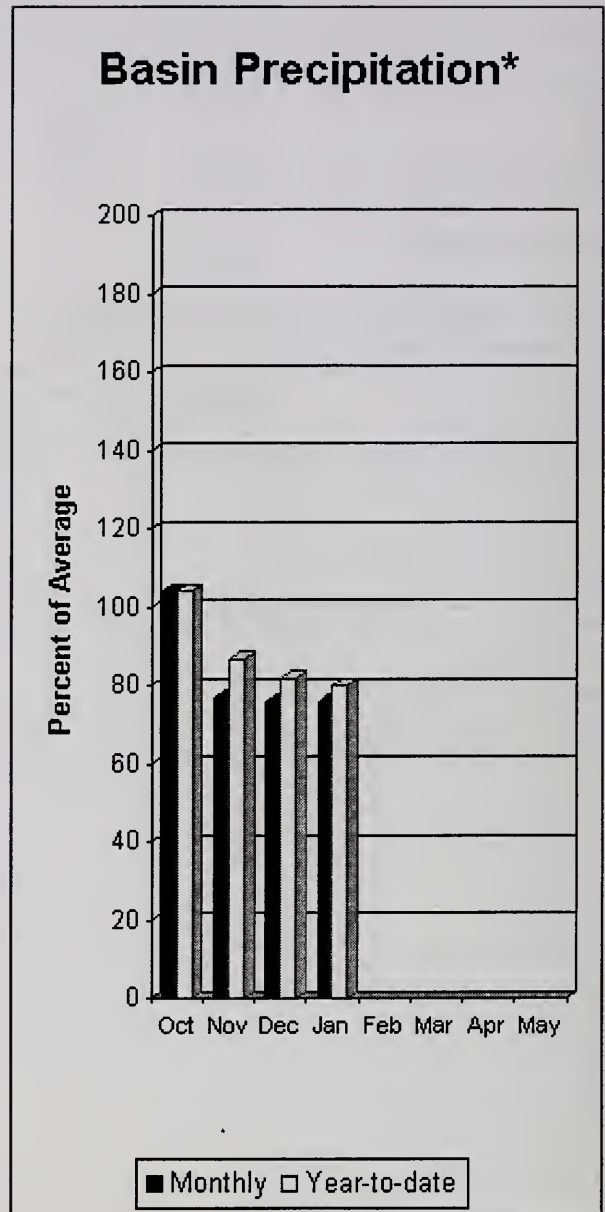
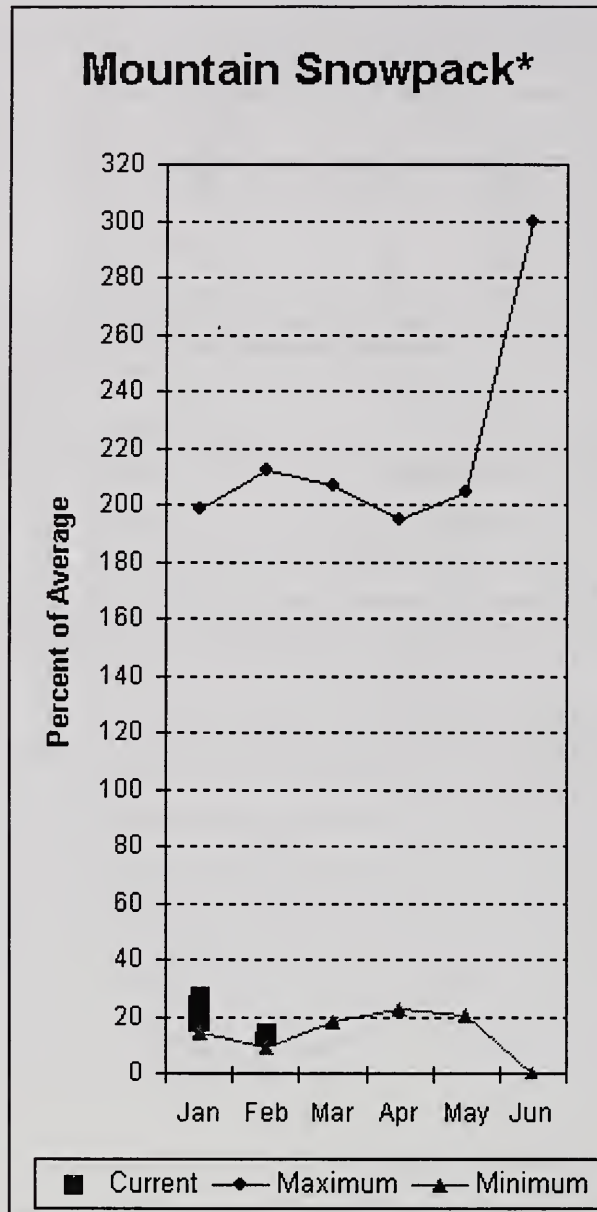
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					WHITE RIVER	2	28	31
					GREEN RIVER	7	4	4
					PUYALLUP RIVER	2	28	31

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 60% for Cedar River near Cedar Falls; 57% for Rex River; 71% for South Fork of the Tolt River; and 55% for Cedar River at Cedar Falls. Basin-wide precipitation for January was 76% of average, bringing water-year-to-date to 80% of average. February 1 average snow cover in Cedar River Basin was 5%, Tolt River Basin was 14%, Snoqualmie River Basin was 13%, and Skykomish River Basin was 24%. Olallie Meadows SNOTEL site, at 3960 feet, had 4.7 inches of water content. Average February 1 water content is 39.2 inches at Olallie Meadows. Temperatures were 2 degrees above average for January and 1 degree above normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Central Puget Sound River Basins

Streamflow Forecasts - February 1, 2005

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
CEDAR near Cedar Falls	APR-JUL	25	36	44	60	52	63	73
	APR-SEP	28	40	48	60	56	68	80
REX near Cedar Falls	APR-JUL	6.4	11.5	15.0	60	18.9	24	25
	APR-SEP	7.0	12.4	16.0	57	20	25	28
CEDAR RIVER at Cedar Falls	APR-JUL	12.0	29	41	55	53	70	74
	APR-SEP	11.9	29	40	55	51	68	73
SOUTH FORK TOLT near Index	APR-JUL	6.7	8.7	10.0	68	11.3	13.3	14.7
	APR-SEP	8.5	10.6	12.0	71	13.4	15.5	16.9

CENTRAL PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of January

CENTRAL PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

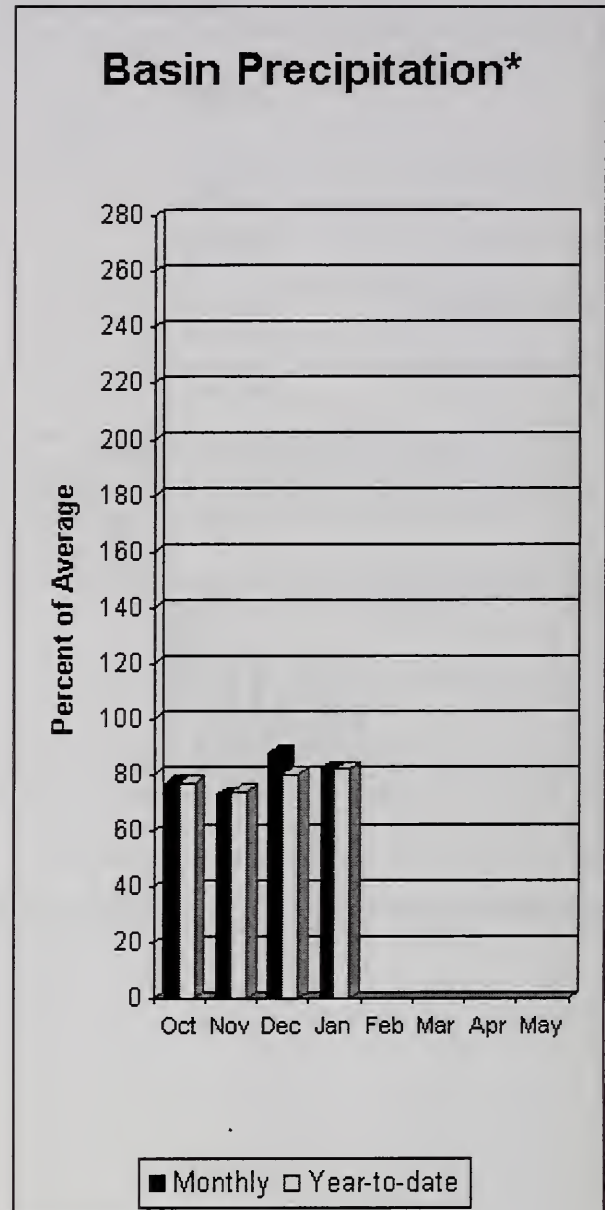
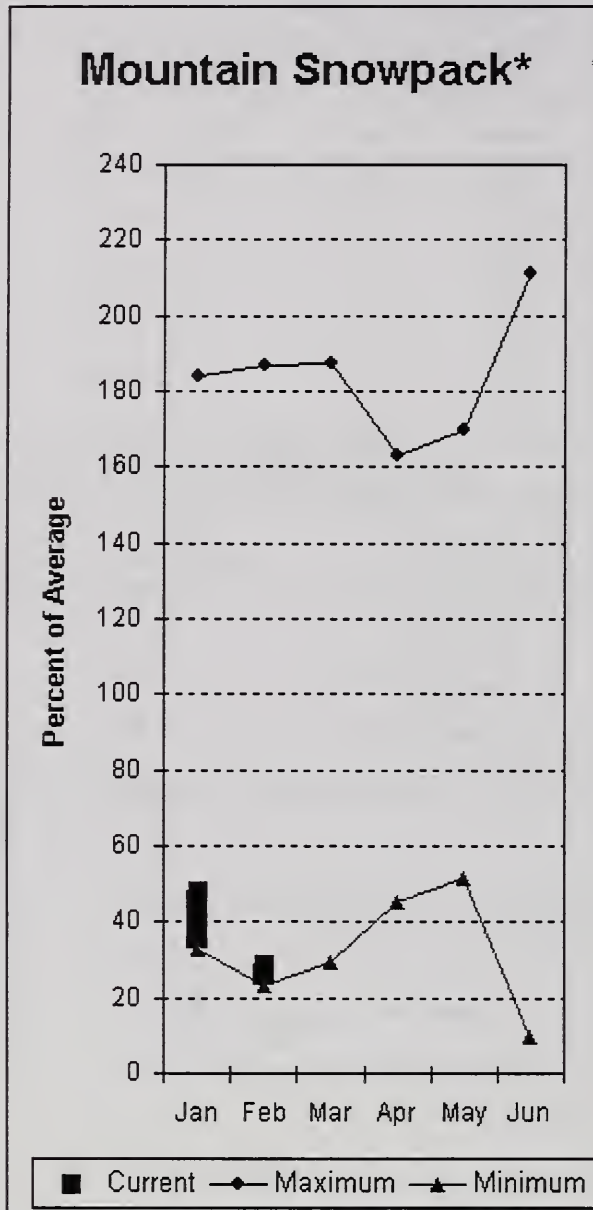
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					CEDAR RIVER	4	4	5
					TOLT RIVER	2	12	14
					SNOQUALMIE RIVER	4	12	13
					SKYKOMISH RIVER	3	22	24

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North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 61% of average for the spring and summer period. January streamflow in Skagit River was 165% of average. Other forecast points included the Baker River at 73% and Thunder Creek at 81% of average. Basin-wide precipitation for January was 82% of average, bringing water-year-to-date to 82% of average. February 1 average snow cover in Skagit River Basin was 30%, and Nooksack River Basin was 21%. Baker River Basin snow surveys at Schreibers Meadow reported 37%. Rainy Pass SNOTEL, at 4,780 feet, had 10.6 inches of water content. Average February 1 water content is 30.2 inches at Rainy Pass. February 1 Skagit River reservoir storage was 128% of average and 89% of capacity. Average temperatures for January were 1 degrees above normal for the basin and 1 degrees above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

North Puget Sound River Basins

Streamflow Forecasts - February 1, 2005

		<<===== Drier ===== Future Conditions ===== Wetter =====>>						
Forecast Point	Forecast Period	Chance Of Exceeding *						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
THUNDER CREEK near Newhalem	APR-JUL	145	160	170	73	178	193	234
	APR-SEP	240	260	270	81	280	300	333
SKAGIT at Newhalem (2)	APR-JUL	870	1010	1100	59	1190	1330	1864
	APR-SEP	1110	1250	1350	61	1450	1590	2217
BAKER RIVER near Concrete	APR-JUL	475	550	600	73	650	725	828
	APR-SEP	615	710	770	73	830	925	1050

NORTH PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of January

NORTH PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

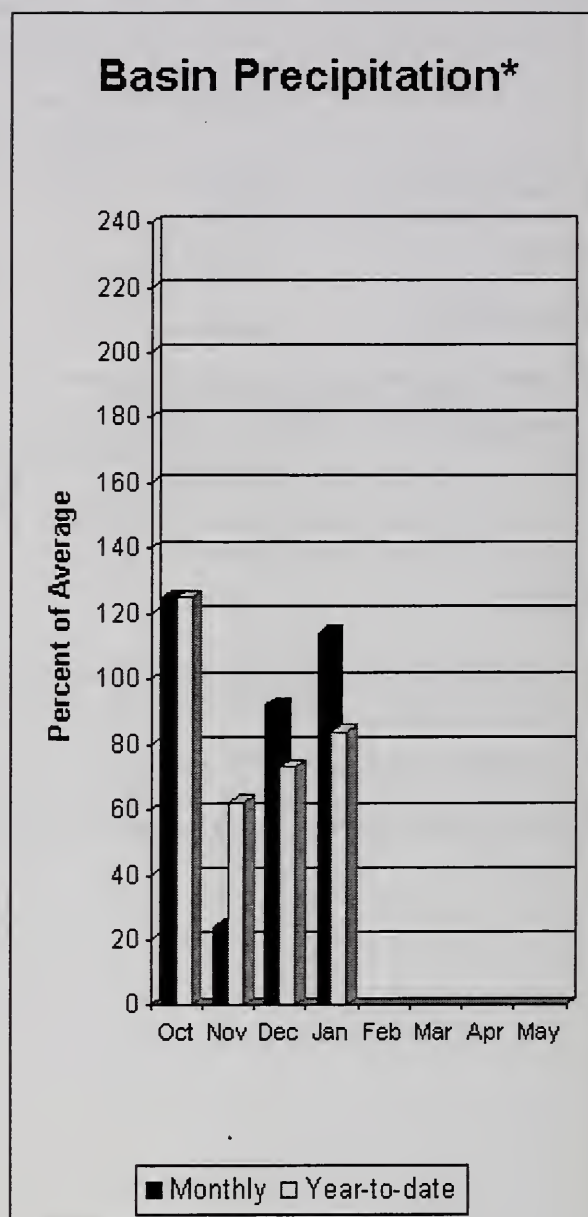
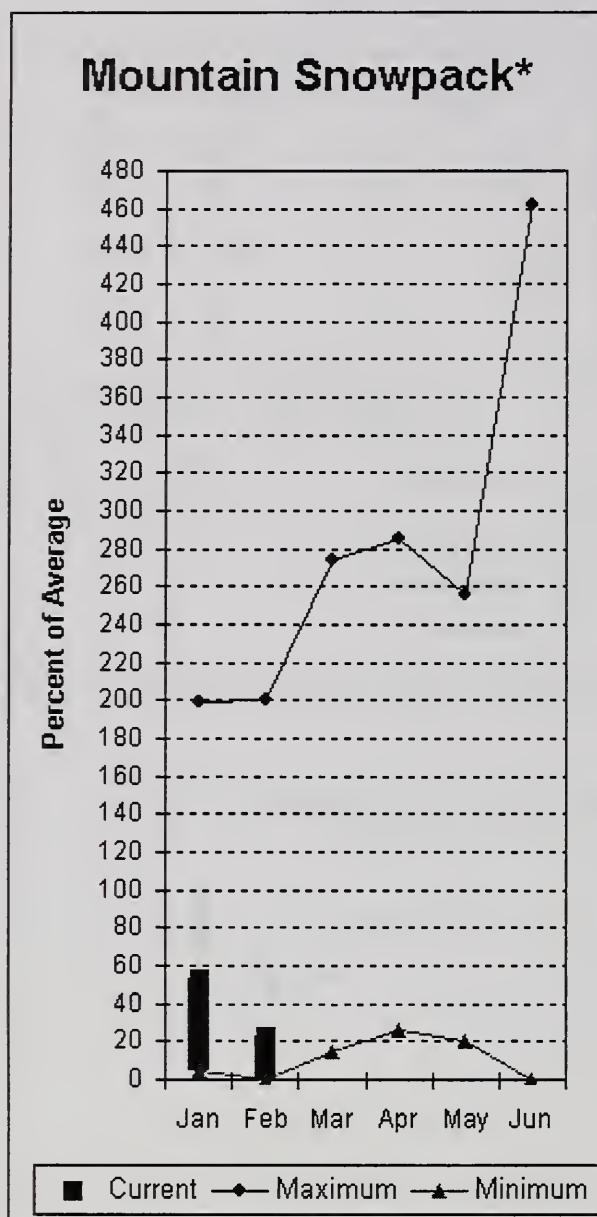
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROSS	1404.1	1247.9	---	978.3	SKAGIT RIVER	12	33	30
DIABLO RESERVOIR	90.6	86.8	---	85.5	BAKER RIVER	1	30	37
					NOOKSACK RIVER	2	14	21

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow in the Dungeness River and Elwha River basins is 65% and 66% respectively. Big Quilcene and Wynoochee rivers should expect below average runoff this summer also. January precipitation was 114% of average. Precipitation has accumulated at 84% of average for the water year. January precipitation at Quillayute was 16.84 inches. The thirty-year average for January is 13.65 inches. Olympic Peninsula snowpack averaged 23% of normal on February 1. Temperatures were 1-3 degrees above average for January and 1-2 degrees above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Olympic Peninsula River Basins

Streamflow Forecasts - February 1, 2005

		<===== Drier ===== Future Conditions ===== Wetter =====>						
Forecast Point	Forecast Period	Chance Of Exceeding *						30-Yr Avg (1000AF)
		90%	70%	50%		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
DUNGENESS near Sequim	APR-SEP	82	92	99	65	106	116	152
	APR-JUL	66	74	79	64	84	92	124
ELWHA near Port Angeles	APR-SEP	275	315	340	68	365	405	503
	APR-JUL	230	260	280	67	300	330	419

OLYMPIC PENINSULA RIVER BASINS Reservoir Storage (1000 AF) - End of January

OLYMPIC PENINSULA RIVER BASINS Watershed Snowpack Analysis - February 1, 2005

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					OLYMPIC PENINSULA	3	15	23

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Issued by

Bruce Knight
Chief
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State Conservationist
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The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of Sustainable Resources Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology Washington State Department of Natural Resources
Federal	Department of the Army Corps of Engineers U.S. Department of Agriculture Forest Service U.S. Department of Commerce NOAA, National Weather Service U.S. Department of Interior Bonneville Power Administration Bureau of Reclamation Geological Survey National Park Service Bureau of Indian Affairs
Local	City of Tacoma City of Seattle Chelan County P.U.D. Pacific Power and Light Company Puget Sound Power and Light Company Washington Water Power Company Snohomish County P.U.D. Colville Confederated Tribes Spokane County Yakama Indian Nation Whatcom County Pierce County
Private	Okanogan Irrigation District Wenatchee Heights Irrigation District Newman Lake Homeowners Association Whitestone Reclamation District

*Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.



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Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA

